
New or Noteworthy Orchids for the Venezuelan Flora IX:
New Taxa, New Records, and Nomenclatural Changes,
Mainly from the Guayana Shield and Northern Amazonas

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ABSTRACT. Research on the Orchidaceae of the Venezuelan Guayana and neighboring areas has yielded several novelties, new records, and nomenclatural changes. Nine species (one *Dichaea*, two *Lepanthes*, one *Maxillaria*, three *Pleurothallis*, one *Sarcoglottis*, and one *Uleiorchis*), a natural hybrid in *Maxillaria*, and two subspecies (one *Myoxanthus* and one *Stelis*) are newly described. New synonymies are proposed in *Campylocentrum*, *Habenaria*, and *Octomeria*. In addition, several miscellaneous country records are reported. Fifteen of the taxa presented are illustrated.

Continued studies related to the orchid treatment for Steyermark et al.'s *Flora of the Venezuelan Guayana* have yielded several novelties and nomenclatural changes for the orchid flora of the area and from other parts of the Neotropics. These novelties have resulted from the study of material received from several recent expeditions or from the study of critical material mainly at the Orchid Herbarium of Oakes Ames (AMES), the Herbario Nacional de Venezuela (VEN), and the Missouri Botanical Garden (MO). The taxa are arranged alphabetically by subfamilies, subtribes, and genera, following Dressler (1990).

SUBFAMILY CYPRIPEIDIOIDEAE

Selenipedium steyermarkii Foldats, Bol. Soc. Venez. Ci. Nat. 21: 254, fig. 1. 1961.

This species was recently collected for the first time outside Venezuela, extending its range into Guyana.

Specimens examined. GUYANA. **Potaro-Siparuni Region:** summit of Mt. Kopinang, 5°00'N, 59°55'W, 1,700–1,800 m, 8 Apr. 1988, Hahn, Judziewicz & Gopaul 4392 (MO, US).

SUBFAMILY EPIDENDROIDEAE

SUBTRIBE ANGRAECINAE

NOVON 3: 102–125. 1993.

Campylocentrum hondurensis Ames, Sched. Orchid. 5: 37. 1923. TYPE: Honduras. Lancetilla Valley near Tela, 250 ft. altitude, 16 Mar. 1923, Ames II 210 (holotype, AMES). Figure 1.

Campylocentrum steyermarkii Foldats, Act. Bot. Venez. 3: 316, f. 4. 1968, syn. nov. TYPE: Venezuela. Táchira: El Piñal, Río Frío, 250–300 m, 27 Aug. 1966, Steyermark & Rabe 96715 (holotype, VEN).

Campylocentrum steyermarkii was based on a specimen in young buds with not fully developed spurs; otherwise it is identical to the type of *C. hondurensis*. We have seen living material collected close to the original locality that confirms this idea. Recently *C. hondurensis* has been collected in the Amazon Basin in Venezuela and Peru; this is the first record of this species for Peru. The species is now known from Honduras, Belize, Venezuela, and Peru. It is apparently always cleistogamous.

Specimens examined. PERU. **Madre de Dios:** Tambopata, Cuzco Amazónico, Lodge Camp site 1, Plot E, 200 m, 14 June 1989, Núñez et al. 11029 (MO). VENEZUELA. **Territorio Federal Amazonas:** Río Mavaca, 1°59'N, 65°6'W, ca. 200 m, 23 Mar. 1988, Ramírez & Laskowski 246 (VEN).

SUBTRIBE DICHAEINAE

Dichaea venezuelensis Carnevali & I. Ramírez, sp. nov. TYPE: Venezuela. Bolívar: Distrito Piar, Amarway-tepui, S side, forest 5–25 m tall, 700–910 m, 28 Apr. 1986, Liesner & Holst 20477 (holotype, VEN; isotype, MO). Figure 2.

(Species) *D. riopalenquensi* Dodson verosimiliter affinis sed floribus minoribus, sepalis 5–6 mm longis (vs. 8 mm), petalis 4.5 mm longis, 2 mm latis (vs. 8 × 3 mm) et labello proportione latiore, 4.5 mm longo, 5.5 mm lato (vs. 9 × 7 mm) differt. *Dichaeam cleistogamam* Dodson in mentem revocans sed foliis sepalisque angustioribus recedit.

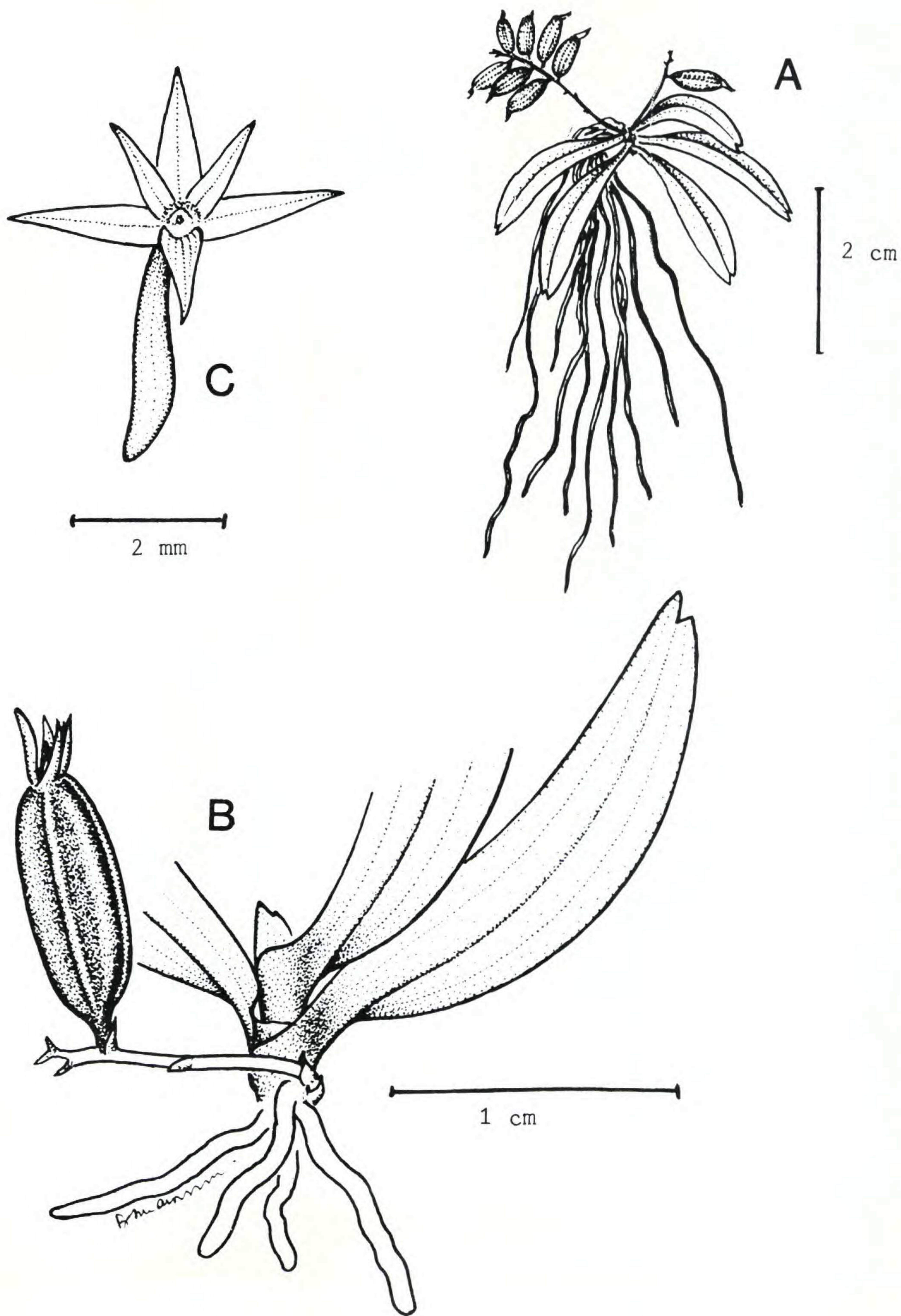


Figure 1. *Campylocentrum hondurensis*. —A. Fruiting plant. —B. Detail of habit. —C. Flower, frontal view (based on Ramírez & Laskowski 246).

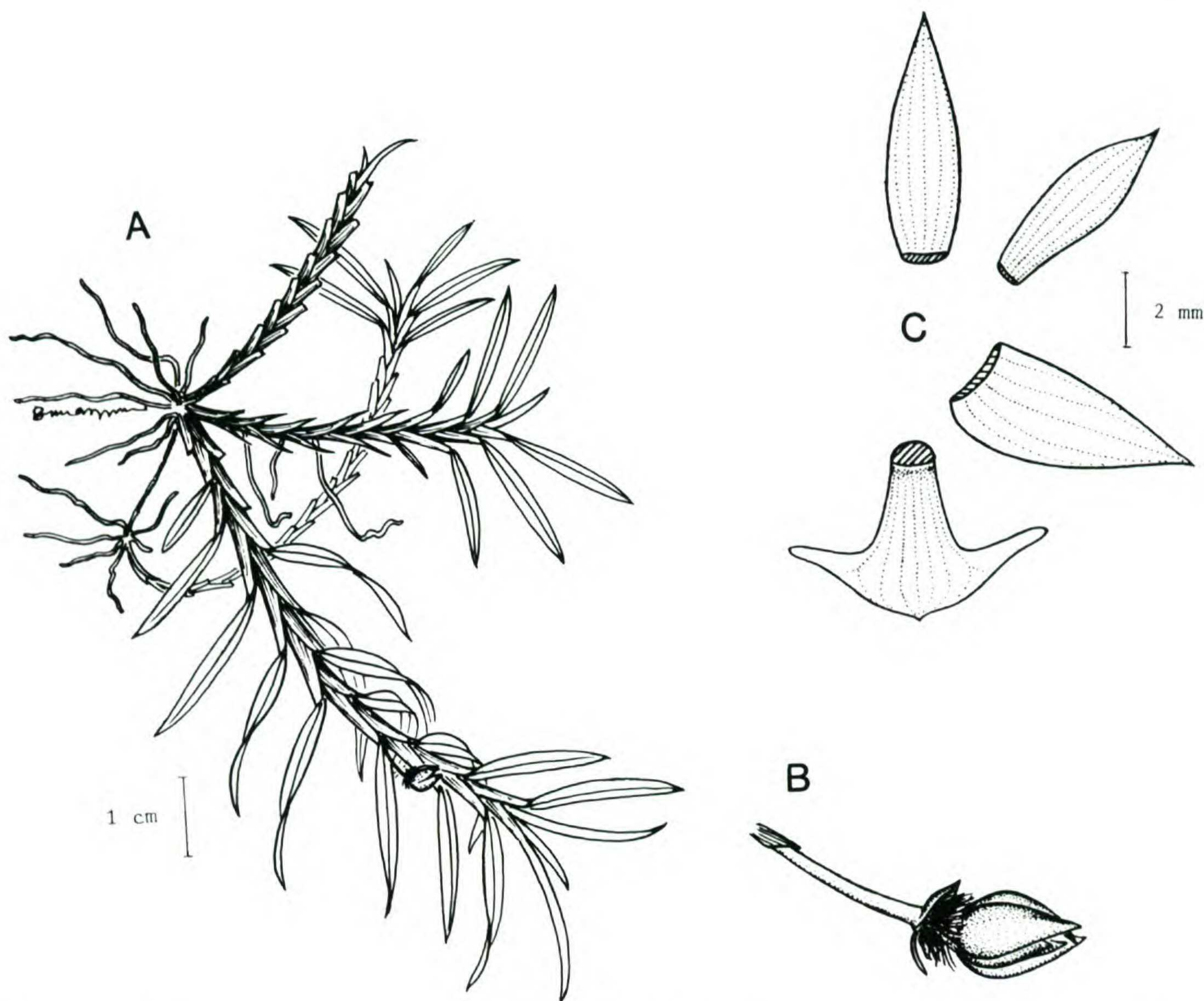


Figure 2. *Dichaea venezuelensis*. —A. Flowering habit. —B. Lateral view of flower with developing capsule. —C. Perianth segments, flattened (based on Carnevali & Ramírez 2030).

Epiphytic herbs, small to medium sized, suberect to pendulous. Stems 7–15 cm long, 3–4 mm thick, usually simple, if branching, then only near base, laterally compressed. Leaves 25–31 mm long, 3–4 mm wide, articulate with sheaths, linear-oblong or linear-elliptic, acute, aristate-acuminate, margins apically minutely ciliolate. Inflorescences uniflorous, solitary in leaf axils; peduncle filiform, terete, 7–10 mm long, with two basal sheaths 3 mm long, 2.5 mm wide; the sheaths imbricate, oblong-elliptic, acute dorsally carinate. Floral bract 2.8–3.1 mm long, ca. 2 mm wide, broadly ovate, acuminate, dorsally carinate. Bracteole 2.8–3 mm long, 0.3 mm wide, linear, acuminate. Ovary 0.8–1 mm long, densely muricate with white hairs (when living). Flowers small, not opening widely and frequently cleistogamous, with greenish white, basally red-speckled sepals and petals; labellum white; column green with red margins. Dorsal sepal 4.5–5.2 mm long, 2.2–2.4 mm wide, ovate-elliptic, acute. Lateral sepals 5.3–6.2 mm long,

2.4–2.8 mm wide, obliquely ovate-elliptic, acuminate. Petals 4.1–4.5 mm long, 1.9–2.1 mm wide, oblong-elliptic to oblong, acute and apiculate or shortly acuminate. Labellum 4–4.2 mm long, fleshier than other perianth segments, very broadly ovate, anchorlike from a broadly cuneate-unguiculate claw, the claw 2.5–2.7 mm long, the blade 5–5.5 mm wide between the apices of the extended lateral lobes, dilated into an abruptly crescentiform anterior portion, apically very broadly rounded or subtruncate, shortly and obtusely apiculate in the center, the apical lateral lobes retrorse, 1.5–2 mm long. Column 1.5 mm long on dorsal face, 2.8–3 mm long on ventral face, ca. 1.5 mm thick, with a pubescent, triangular infrastigmatic ligule 0.5 mm wide.

Paratypes. VENEZUELA. **Bolívar**: 78 km S de Urimán-tepui, bosques en alrededores de pequeña cima de arenisca, 04°39'N, 62°36'W, 450 m, Sep. 1986, *Fernández* 3424 (MYF, VEN); Gran Sabana, Amarway-tepui, 600–900 m, floración en cultivo de una planta

originalmente colectada por R. Liesner & B. Holst, 30 Sep. 1986, *Carnevali & Ramírez 2030* (VEN); cercanías de Wonkén, Río Akaruai, vegetación riparina, 800–900 m, 11 Sep. 1983, *Morillo et al. 9445* (VEN). **Miranda:** Parque Nacional Guatopo, bosque nublado, 600–800 m, 10°03'N, 66°27'W, 27 May 1987, *Capote 140* (VEN). **Táchira:** ca. 35 km SSE de San Cristóbal, La Buenana, 6–12 km from Quebrada Colorado, primary forests, 600–1,000 m, 07°28'N, 72°09'W, 20–21 Mar. 1981, *Liesner & González 10848* (MO, VEN). **Territorio Federal Amazonas:** Río Ararí, afluente del Matapire, 3–6 km aguas arriba de la desembocadura del primero, 530–550 m, 01°30'N, 65°13'W, 14 Nov. 1982, *Guánchez 2250* (TFAV, VEN).

This new *Dichaea* is one of about 15 species in the genus with articulated leaves and echinate ovaries. It appears to be related to the Ecuadorean *D. riopalenquensis*, which has larger flowers and a differently proportioned labellum. Another related species is *D. cleistogama* Dodson, also from Ecuador, with which it shares the tendency toward cleistogamous flowers, but *D. venezuelensis* is different in its narrower leaves and perianth segments. Specimens of *D. venezuelensis* have previously been confused with *D. brachypoda* Reichenbach. f., a similar but larger species. In *D. brachypoda* the perianth segments are brownish violet within and are 7.5–8.5 mm long. *Dichaea venezuelensis* grows as an epiphyte at altitudes of 450–1,000 m, in wet forests. It is a widespread, though uncommon species in Venezuela.

SUBTRIBE GASTRODIINAE

Uleiorchis liesneri Carnevali & I. Ramírez, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Departamento Atures, lower forested E slope of unnamed 1,760 m peak, 8 km NW of Yutajé, 1,050–1,200 m, 5°41'N, 66°9'W, 13 Mar. 1987, *Liesner & Holst 21893* (holotype, VEN; isotype, MO). Figure 3.

Species haec *Uleiorchis ulaei* (Cogniaux) Handro affinis sed differt labello longiore, proportione angustiore, 15–16 mm longo, 3–3.2 mm lato vs. 11 mm longo, 4.5 mm lato, i.e., 5-plo longiore quam latiore (vs. 3-plo longiore quam latiore), anguste oblongo-elliptico (vs. ovato-elliptico), longiore vel subaequante quam copa perianthina (vs. brevior quam copa perianthina).

Saprophytic, erect herbs, 15–33 cm high, shade-loving. Basal corms 3–10 mm thick, horizontal, fusiform. Stems 1–2 mm thick, terete, straight or arched, simple or bifurcate, mostly naked except for membranous sheaths at nodes; sheaths 4–5 mm long, 3 mm wide, ovate, acute to subacuminate, 5–6-nerved. Flowers solitary at stem apex, resupinate, horizontal, not widely opening. Floral bracts 5–6 mm long, 3–4 mm wide, similar to cauline sheaths,

loosely fitting the pedicellate ovary. Pedicellate ovary obconic, subtrigonous; pedicel 3–4 mm long, terete, ovary 4–4.5 mm long. Sepals and petals fused into a cup or sac longitudinally opened at the ventral face, this opening entirely filled in natural position by the labellum. Perianth cup dorsally 14–16 mm long, 17–18 mm long ventrally from base of columnar foot, 5–6 mm wide, subtriangular in lateral view; free portions of sepals and petals 0.5–1.5 mm long, triangular elliptic, acute, obtuse or truncate, the sepaline tails somewhat longer; expanded perianth cup 13–15 mm wide at base. Labellum 15–16 mm long, 3–3.2 mm wide, simple, narrowly oblong-elliptic, apically subrounded or broadly obtuse, basally subrounded-truncate with a claw 1 mm long by which the blade is hinged to column-foot; blade concave, margins undulate-crenate, ventral face laterally finely and densely black-verruculose, with an intense grayish hue, medially smooth and cream-colored. Column 8–10 mm long; basal zone subcylindric, 4–4.5 mm long; apical, stigmatic zone 4.5–5 mm long, obovate, truncate, pubescent; column-foot 4.5–5.5 mm long, forming an angle of ca. 60° with the ovary; rostellum 2 mm long, flat, horizontal. Capsules obovoid, 10–12 mm long with pedicel up to 12 mm long.

This is the second known species in this saprophytic genus. It differs from *U. ulaei* by its solitary flower and longer and narrower labellum, which is longer or nearly equal in length to the perianth cup. *Uleiorchis liesneri* seems to inhabit altitudes above 1,000 m, while *U. ulaei* is only known from below 500 m. The species is named after Ronald Liesner of the Missouri Botanical Garden, one of the most important plant collectors in the Venezuelan Guayana.

KEY TO THE SPECIES OF *ULEIORCHIS*

- 1a. Labellum narrowly oblong-elliptic, 5 times or more as long as wide, 15–16 mm long, longer than or subequalling the perianth cup . . . *U. liesneri*
- 1b. Labellum ovate-elliptic or ovate, 2.5–3 times as long as wide, up to 11 mm long, shorter than the perianth cup *U. ulaei*

Notes on *Uleiorchis ulaei*

Uleiorchis ulaei was previously known from southeastern and Amazonian Brazil and southern Venezuela, but it is now known to occur in Panama and Peru as well. In Venezuela, it has recently been collected in the northwestern state of Zulia, in the foothills of the Sierra de Perijá. Perijá is known to have floristic relationships both with the Amazonian Basin (Steyermark, 1982), as shown by such orchids as *Epidendrum huebneri* Schlechter and *E. smaragdinum* Lindley, and with the Atlantic Coast of

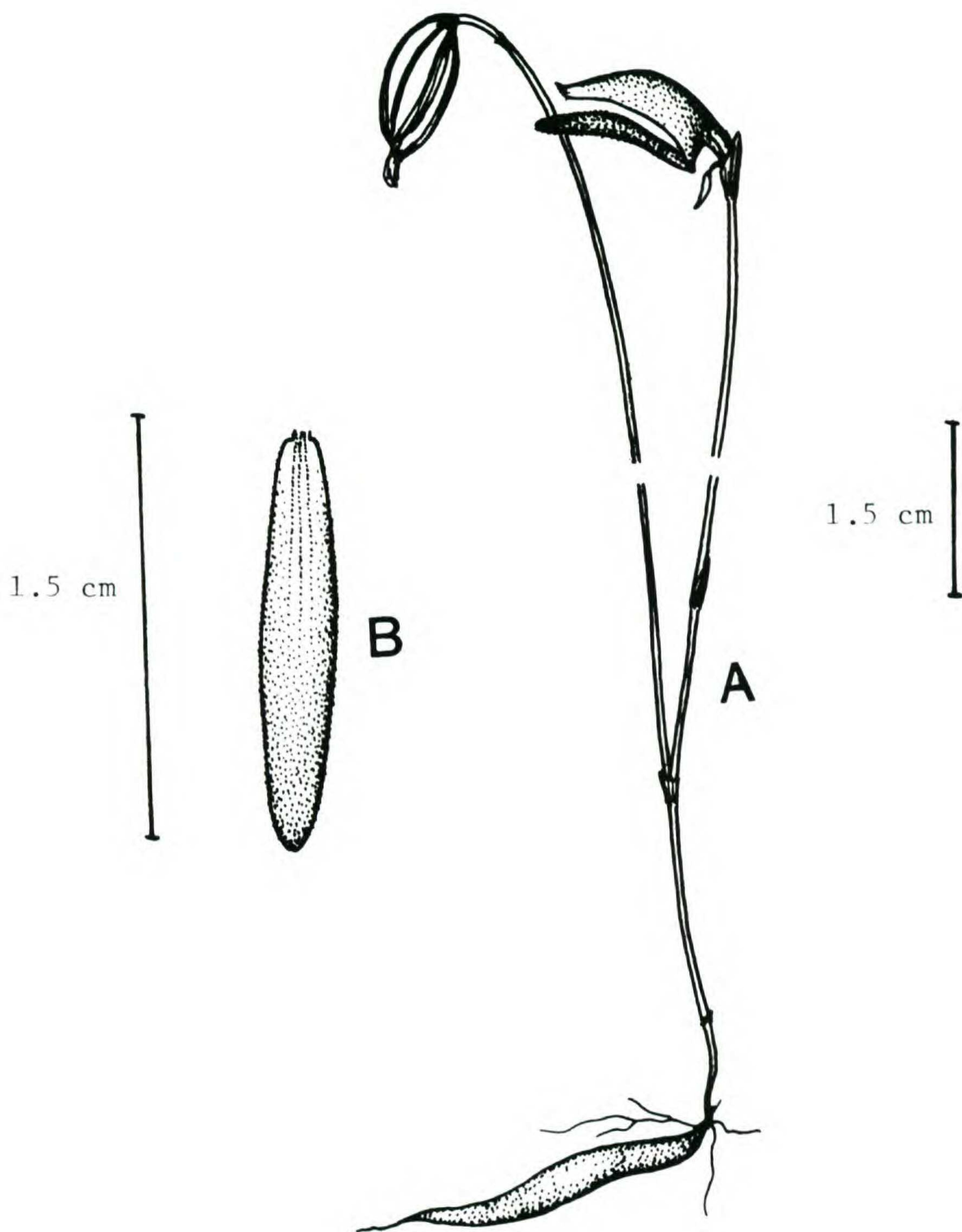


Figure 3. *Uleiorchis liesneri*. —A. Flowering plant. —B. Labellum, flattened (based on *Liesner & Holst 21893*).

Panama and Central America, as shown by such orchids as *Leucohyle subulata* (Swartz) Schlechter, *Trigonidium egertonianum* Bateman, *Trichocentrum capistratum* Reichenbach f., and *Encyclia hunteriana* Schlechter.

Specimens examined. PANAMA. **Canal Zone:** Military reserve Fort Sherman, between Gatún and Piña, 0–170 m, 2 Apr. 1973, *Liesner 1367* (MO). **San Blas:** El Llano–Carti Road km 26.5, 9°19'N, 78°55'W, 200 m, 8 Apr. 1985, *de Nevers et al. 5248* (MO). PERU. **Pachitea:** Puerto Inca, 250–300 m, 09°18'S, 74°58'W, 15 Sep. 1982, *Foster 8825* (MO). VENEZUELA. **Bolívar:** Sierra Maigualida, 300–500 m, 26 Apr. 1966, 6°N, 65°W, *Steyermark 95775* (VEN). **Zulia:** 55 km SW of Machiques by air, Aricuaisá, 100–250 m, 9°36'N,

72°5'W, 24–25 Mar. 1982, *Liesner & González 13177* (VEN). **Territorio Federal Amazonas:** Cerro de La Neblina, 150–500 m, 0°50'N, 66°10'W, 20 Feb. 1984, *Liesner 15934-a* (MO, VEN), 20 Feb. 1984, *Liesner 16129* (MO, VEN).

SUBTRIBE MAXILLARIINAE

Maxillaria × dunstervillei Carnevali & I. Ramírez, nothosp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Cerro de la Neblina, Camp II, 2.5–3.5 km of Pico Phelps, wet meadow with *Heliamphora*, grasses and sphagnum surrounded by low forest of predominantly *Euterpe* and *Bonettia*, “Flowers yellow, growing

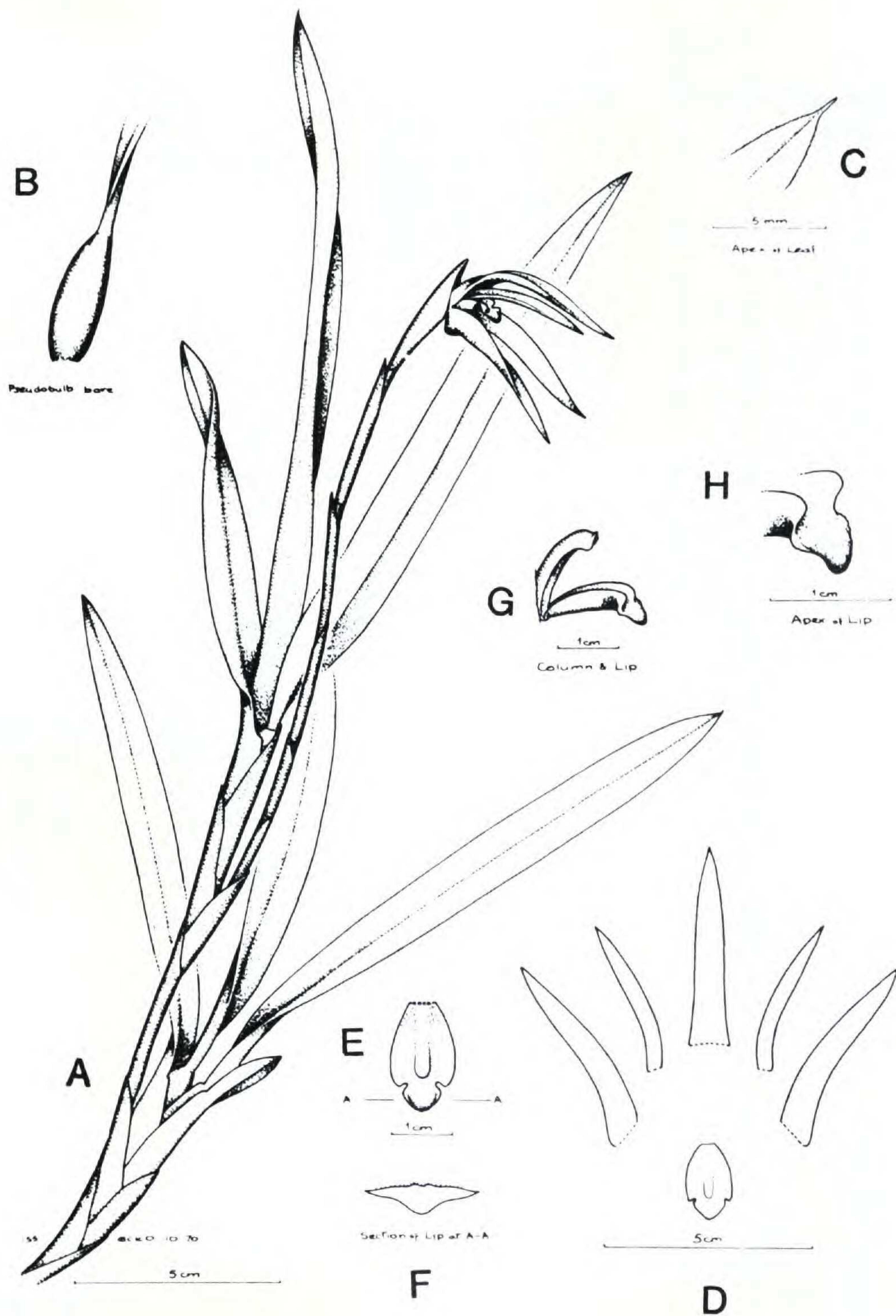


Figure 4. *Maxillaria* × *dunstervillei*. —A. Flowering habit. —B. Pseudobulb, bare. —C. Apex of leaf. —D. Perianth segments flattened. —E. Detail of flattened labellum. —F. Transversal section through midlobe of labellum. —G. Labellum and column, other perianth segments removed. —H. Apex of labellum in natural position (based on *Dunsterville 1155*; illustration by G. C. K. *Dunsterville*, courtesy of AMES).

on tree in moss," 0°50'N, 65°48'W, 2,000 m, 17–22 Feb. 1984, *Funk 6258* (holotype, VEN; isotype, US). Figure 4.

Planta et flos inter *Maxillariam meridensem* Lindley et *M. quelchii* Rolfe quasi intermedia, vel variabilis. A *Maxillaria quelchii* similis sed rhizomatis vaginis scabriusculis longioribus; foliis pseudobulbisque angustioribus, sepalis petalisque longioribus, flaveobrunnescentibus concoloribus vel parum bicoloribus, labelli lobulo centrali ovato, subacuto vel rotundato, parum verruculoso, callo elongatiore differt.

This natural hybrid was first noted by *Dunsterville* (1972) but he failed to provide a Latin diagnosis, probably because he was not sure of its identity. Material collected in the same general area indicates that these plants probably represent the product of introgression between *Maxillaria meridensis* and *M. quelchii*. Several lines of evidence point to the hybrid origin of these populations restricted to the highlands of the Neblina Range in southern Venezuela and northern Brazil. First, these plants show

intermediate stages between the putative parents in most morphological characters. Second, the distribution of the character states is by no means even, some plants being almost exactly intermediate, others closer to one parent, others to the alternative parent. As Hurst (1902) pointed out, "in orchid hybrids of the first generation single specific characters are inherited in all degrees of blending, forming as a whole, a perfect series between the respective characters of the two parents." Third, these plants grow in mixed populations with both parents, being apparently (based on abundant collections of this complex in the area) rarer than any of them. Fourth, *Maxillaria meridensis* and *M. quelchii* are the only *Camaridium*-like species in the genus present at such high elevations in the area where these natural hybrids occur. The only other species of the *Camaridium* group to be found in the Neblina Range, but usually at lower altitudes, is *M. mapiriensis* (Kränzlin) L. O. Williams, which has different pollinaria, much smaller flowers and leaves, and is unlikely to have the same pollinator as the two putative parents.

Maxillaria meridensis is characterized by long rhizomes with small (1.5–3.5 cm long, 1–1.5 cm wide), narrowly fusiform pseudobulbs set distantly apart. Both pseudobulbs and rhizome are concealed by scabrous-pustulose sheaths. Leaves are linear to linear-lanceolate, 9–28 cm long, 1–1.5 cm wide and acute. The perianth segments are yellowish or yellow-brown to dull orange, with sepals 17–22 mm long. The apical lobe of the labellum is very fleshy and ovate to triangular-ovate, and its surface is smooth to lightly scabrous. *Maxillaria quelchii*, on the other hand, has a more compact growth habit with pseudobulbs closely set on the rhizome, although it can be definitely creeping; the pseudobulbs and rhizome are concealed by striate sheaths. The pseudobulbs are 2.5–3 cm long, 1.5–2 cm wide. Leaves are oblong-lanceolate to oblong-oblong-lanceolate and obtuse to broadly acute. The perianth segments are white or yellowish basally, grading abruptly to a very dark maroon that is shiny in the outer surface; sepals are 31–37 mm long. The apical lobe of the labellum is transversely elliptic to obovate-suborbicular and coarsely verruculose. Depending on the individual, *Maxillaria* × *dunstervillei* shows variable combinations of all these character states. In all the plants collected, the abrupt change in color that occurs in the sepals and petals of *M. quelchii* has been obliterated or somewhat "washed out" due to the influence of *M. meridensis*. The holotype is a plant closer to *M. quelchii*, but with narrower leaves and pseudobulbs and an almost smooth central lobe approaching *M. meridensis*; the sepals in these

specimens are up to 48 mm long, apparently showing some degree of hybrid vigor. A paratype (*Stein & Gentry 1571*) is much closer to *M. meridensis* vegetatively, but the flowers are large and similar to those of *M. quelchii*. The other two paratypes (*Dunsterville 1154, 1155*) are more intermediate between the putative parents. The pollinaria of the hybrids are intermediate among those of the putative parents. All the collections made of this hybrid come from a small area in the Neblina Range, although both putative parents are rather common and widespread in all the Guayana Highlands.

Maxillaria schlechteri Foldats (syn. *M. rugosa* Schlechter), described from Roraima, may represent this hybrid, although the description suggests only a narrowly central-lobed form of *M. meridensis*. This taxon has never been collected again, and the type seems to have been destroyed in the bombardment of the Berlin herbarium during World War II.

Paratypes VENEZUELA. **Territorio Federal Amazonas:** Cerro La Neblina, Camp. II, 2.8 km NE of Pico Phelps, 2,100 m, 0°49'40"N, 65°59'W, open bog, 15 Apr. 1984, *Stein & Gentry 1571* (MO, VEN). BRAZIL. **Amazonas:** Cerro La Neblina, Pico Zuloaga, close to NE lateral cliff fall, 2,400 m, Oct. 1972, *Dunsterville 1154* (AMES, HB), *Dunsterville 1155* (AMES, HB).

Maxillaria foldatsiana Carnevali & I. Ramírez, *Ann. Missouri Bot. Gard.* 76: 376. 1989.

This is the first collection of this species for Guyana. It was previously known only from the type collection in southern Venezuela.

Specimen examined. GUYANA. **Mazaruni–Potaro:** Membaru Creek, upper Mazaruni River, 13 Feb. 1939, *Pinkus 209* (AMES).

Maxillaria grobyoides Garay & Dunsterville, *Ven. Orch. Ill.* 5: 186, 1972.

This taxon seems to be widespread, though rare or only locally common in the northern Amazon Basin. The following are the first collections reported for Colombia and Peru. It was previously known from Brazil and Venezuela.

Specimens examined. COLOMBIA. **Vaupés:** Río Apaporis, Raudal del Jirijirimo, 7 ago. 1951, *Schultes & Cabrera 13439* (AMES). PERU. **Loreto:** Alto Amazonas, carretera Oleoducto secundario entre Andoas y Capahuari Sur, 2°50'S, 76°28'W, 210 m, 13 Sep. 1979, *Díaz & Jaramillo 1374* (MO).

Maxillaria maleolens Schlechter., *Feddes Rep. Sp. Nov. Beih.* 19: 233. 1923.

Maxillaria maleolens is closely related to *M. violaceopunctata* Reichenbach f. from the Guianas

and the Amazon Basin, from which it differs mainly by details of labellum shape and coloration, by its broader sepals, and by its fragrance, which despite the specific epithet is not disagreeable. This species is apparently widespread but uncommon in Mexico, Belize, Costa Rica, and Panama. It is now recognized from Colombia, close to the Panamanian border.

Specimen examined. COLOMBIA. **Chocó:** Bahía Solano, 0–100 m, 25 July 1973, *Warner & White 37* (MO).

Maxillaria nuriensis Carnevali & I. Ramírez, sp. nov. TYPE: Venezuela. Bolívar: Altiplanicie de Nuria, cloud forest on summit of SE-facing escarpment, E of Cerro El Picacho, N of Las Nieves and Las Chicharras, 45 km N of Tumereño, vicinity of Deborah, 600–650 m, 5–8 Feb. 1967, *Steyermark 89128* (holotype, VEN; isotype, NY). Figure 5.

(Species) *Maxillariae melinae* Lindley similis sed labello cuarto apicali trilobato, petalis angustioribus recedit.

Epiphytic herbs, medium sized, caespitose, erect. Pseudobulbs 2.5–3 cm long, 1–1.3 cm wide when dry, obliquely oblong, apically unifoliate, clothed by 2–4 sheaths, the innermost 1–2 bearing leaves. Leaves 9.5–25 cm long, 2.1–3 cm wide, the blades submembranous, oblong-elliptic, acuminate, basally attenuate into a pseudopetiole 4–6.5 cm long, ca. 2 mm thick, 2–3 times longer in the apical leaf. Inflorescences 5–8 cm long, uniflorous, much longer than pseudobulb but shorter than leaves (nearly equaling petioles), entirely clothed by tubular, scarious, subimbricate sheaths. Flowers medium sized for the genus, resupinate, with subparallel, creamy-colored perianth segments. Pedicellate ovary 2.3–2.8 cm long, subterete. Floral bract 1.8 cm long, 0.7 cm wide, elliptic, acute. Perianth segments submembranous, strongly nerved in rehydrated material. Dorsal sepal 2–2.2 cm long, 0.5–0.6 cm wide, narrowly triangular to triangular, acuminate, 9-nerved. Lateral sepals 2.2 cm long, ca. 0.5 cm wide, similar to dorsal but somewhat oblique. Petals 1.6–1.8 cm long, 0.3–0.32 cm wide, narrowly triangular-oblong, acuminate, 7–8-nerved. Labellum 1.5–1.7 cm long, about 0.5 cm wide, narrowly elliptic-obovate, slightly 3-lobed above apical fourth, the lateral margins erect in natural position; lateral lobes small, subtruncate to rounded; central lobe 4 mm long, 2.7 mm wide, fleshy, ovate, obtuse to subacute, somewhat verruculose; disk with an oblong, acute callus slightly above middle of blade of labellum. Column ca. 8 mm long, apically 3 mm thick, hemicylindric, somewhat laterally flattened, basally produced into a 5-mm-long, almost perpendicular foot.

This new species is related to the *Maxillaria melina* Lindley complex. Among the species of this group it can be recognized by the following character combination: labellum 3-lobed above apical $\frac{1}{4}$; columnar foot 6 mm long, slightly shorter than column (8 mm long), sepals 2–2.2 cm long, and narrow petals (1.6–1.3 cm long, 0.3–0.32 cm wide). *Maxillaria nuriensis* can be readily distinguished from the closely related *M. melina* by its apically 3-lobed (not pandurate) labellum and its narrower petals.

Maxillaria santanae Carnevali & I. Ramírez, Ann. Missouri Bot. Gard. 76: 377. 1989.

The following collection is the first of this species for Guyana. All known localities in Venezuela and Guyana are very close to the borders of Brazil, so it is expected that this species will be found there also. It is also known from Ecuador.

Specimen examined. GUYANA–BRAZIL BORDER. Akarai Mountains, between Rio Mapuera (Trombetas tributary) and Shodikar Creek (Essequibo tributary), 600–800 m, 19 Jan. 1938, *Smith 2987* (AMES, NY).

Maxillaria tenuis C. Schweinfurth, Bot. Mus. Leaf. 11: 289, t. 18. 1945.

The study of previously undetermined material allows us to report the first collections from Colombia of this typically Amazonian species. It was previously known from Venezuela, Brazil, and Peru.

Specimens examined. COLOMBIA. **Vaupés:** Río Kanarari, Cerro Isibukuri, 250–700 m, 4 Aug. 1951, *Schultes & Cabrera 13371* (AMES); Río Kuduyari, 300 m, 23–25 June 1958, *García-Barriga et al. 15775* (AMES, MO).

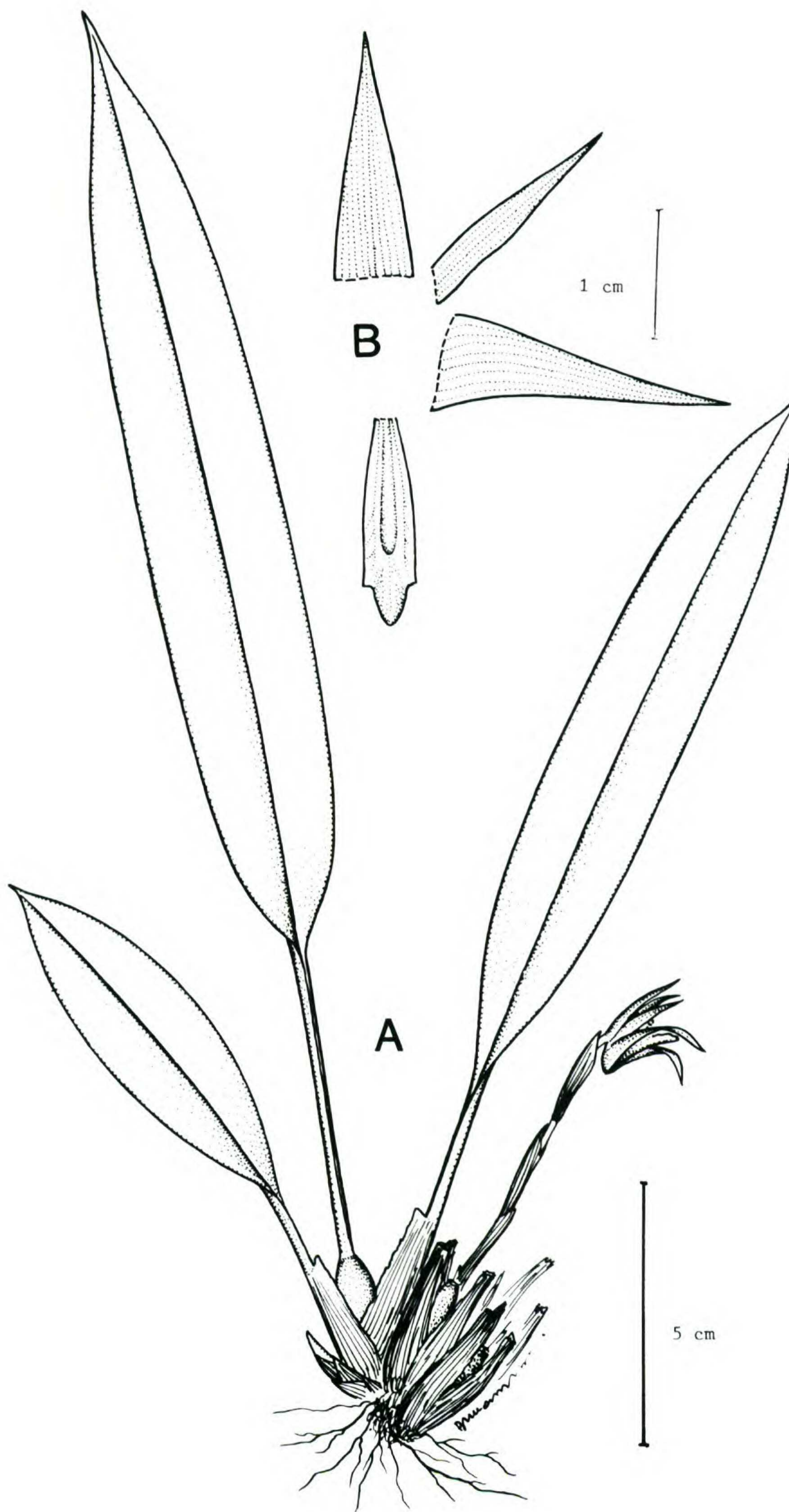
SUBTRIBE ORNITHOCEPHALINAE

Caluera Dodson & Determann

Caluera surinamensis Dodson & Determann, Amer. Orchid Soc. Bull. 52: 377. 1983.

Material belonging to this species was collected more than 20 years ago in Venezuela, but remained unidentified until now. Besides the herbarium specimen mentioned here, the authors have seen living material collected in Parque Nacional Guatopo, Estado Miranda and cultivated by Halina Mendez, in Caracas, Venezuela. This is the first record of the genus *Caluera* for Venezuela. This species is also known from Surinam and French Guiana.

Specimen examined. VENEZUELA. **Barinas:** Reserva Forestal Caparo, bosque tropófilo, Unidad I, parte S de la pica 7 y 9, 16–18 km SE del Campamento Cachicamo, E de El Cantón, 100 m, 9 abr. 1968, *Steyermark et al. 101989* (MY, VEN).



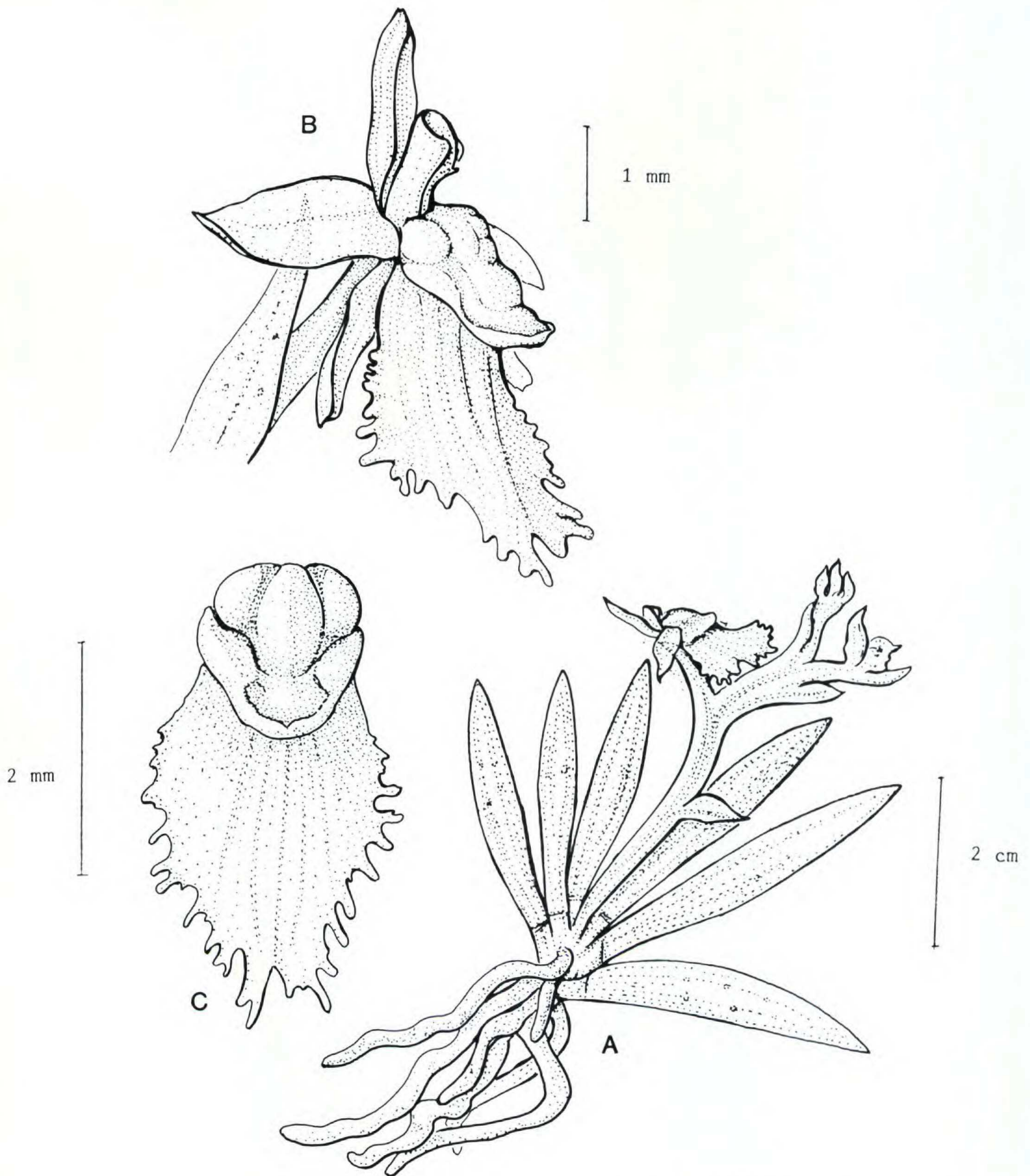


Figure 6. *Eloyella panamensis*. — A. Flowering habit. — B. Detail of the flower. — C. Labellum, flattened (illustration by J. Myers, based on Stergios & Taphorn 13416).

Eloyella Ortiz

Eloyella panamensis (Dressler) Dodson, Icon. Plant. Trop., ser. 2: pl. 0455. 1989. Figure 6.

This diminutive twig-epiphyte was recently collected for the first time in Venezuela, growing in a high tree at 15–20 m in riparian forests. This is the first record of the genus *Eloyella* for Venezuela.

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Figure 5. *Maxillaria nuriensis*. — A. Flowering habit. — B. Perianth segments, flattened (based on Steyermark 89128).

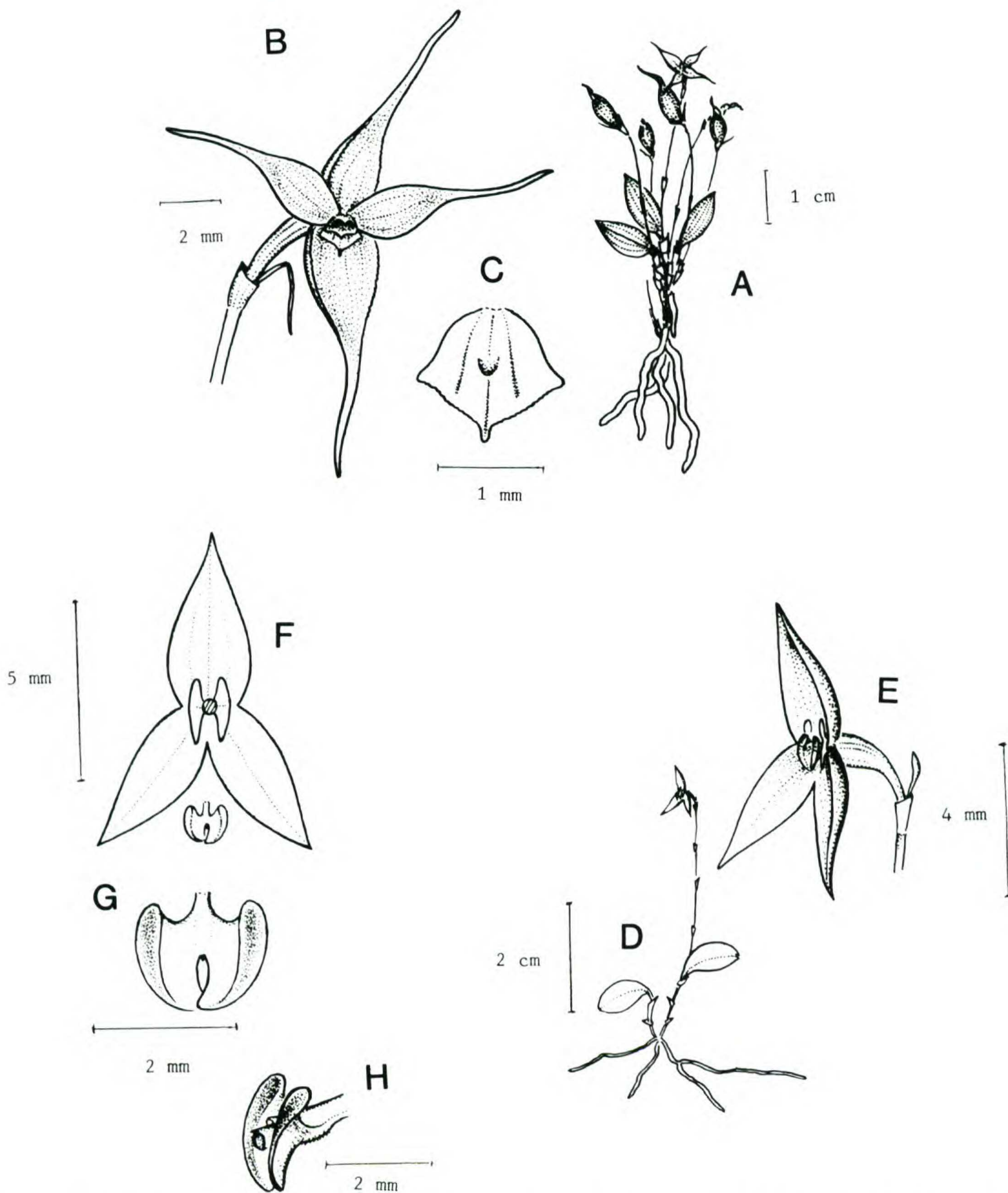


Figure 7. A–C. *Brachionidium parvum*. —A. Flowering plant. —B. Flower. —C. Labellum (based on *Liesner & Holst 21724*). D–H. *Lepanthes unitrinervis*. —D. Flowering plant. —E. Flower. —F. Perianth segments flattened. —G. Labellum. —H. Lateral view of labellum and column (based on *Liesner 23433*).

Eloyella panamensis was previously known from Panama and Ecuador.

Specimen examined. VENEZUELA. **Bolívar:** Distrito Sucre, Caño Icutú, Río Nichare, afluente del Río Caura, 5°53'N, 69°51'W, 150–200 m, 24 mar. 1989, *Stergios & Taphorn 13416* (PORT, VEN).

SUBTRIBE PLEUROTHALLIDINAE

Brachionidium Lindley

Brachionidium parvum Cogniaux, *Repert. Spec. Nov. Regni Veg.* 6: 307, 1909. Figure 7A–C.

This species was previously known only from Grenada, Dominica, and Haiti, but recently it has been collected several times in the Venezuelan Guayana. It had been erroneously included in the Venezuelan Flora by Garay (1956) when he reduced *B. longicaudatum* Ames & C. Schweinfurth to its synonymy. This latter taxon is clearly a different, much larger species that grows at higher elevations on tepui summits. Foldats (1970a), in his treatment of the genus, followed Garay's interpretation of *B. parvum*, and the description he provided was a mixture of *B. parvum* and *B. longicaudatum*. Here we offer the first complete description based on all the material available of *B. parvum*. Data on populations from the West Indies were kindly provided by C. A. Luer.

Epiphytic or subterrestrial, humicolous, erect herbs, 4–8 cm high including inflorescences. Roots few, thick, relatively short. Rhizome to 12 mm long, erect, subterete, concealed by scarious sheaths. Ramicauls 3–4 mm long and ca. 1 mm diam., spaced 1–4 mm on the rhizome, subterete to subtrigonus, concealed by two sheaths, these 2–3 mm long, inflated, costate, mucronate. Leaves 8–16 mm long, 4–5.5 mm wide, 7-nerved, fleshy, erect to suberect, elliptic, acute with a 3-denticulate apex, basally attenuate into a pseudopetiole 1–3 mm long. Inflorescences from the ramicaul apex, solitary, uniflorous, erect; peduncle 12–22 mm long, subterete, straight, with a median, long-mucronate sheath 2–3.5 mm long, tubulose, inflated, subcostate. Floral bract similar to peduncle sheath, 2–2.5 mm long. Pedicel 0.5–1.5 mm long, laterally compressed. Filament 2.5–4 mm long, filiform, thickened toward apex. Ovary 2–2.5 mm long, subtrigonus. Flowers greenish to hyaline, nonresupinate, often fertilized. Dorsal sepal 5–7.5 mm long, 3-nerved, blade 4.5 mm long, 2.5 mm wide, ovate, acute, caudate, the margins finely ciliate, tail 1.5–3.5 mm long; lateral sepals connate into a 4-nerved synsepal, dimensions as for dorsal sepal, tail minutely bifid. Petals 5–7.5 mm long, 3-nerved, elliptic to oblong-elliptic, acuminate, blade 3.5–5 mm long, 1.5–2 mm wide, the tail 1.5–2.5 mm long, the margins finely ciliate. Labellum 1.2–1.5 mm long, 1.5–1.75 mm wide, fleshier than other perianth segments, transversely rhombic or subtrapeziform, apically rounded or obtuse and with a triangular apiculum 0.4 mm long, basally cuneate, the anterior margin erose; disk finely papillose, apically concave, basally with an ovoid, cushionlike, microscopically pubescent callus. Column 0.5–0.7 mm long, ca. 1 mm broad. Pollinia 6. Capsule 8 mm long, 3–4 mm diam., oblong-ellipsoid.

Specimens examined. VENEZUELA. **Bolívar:** 17 km E of El Paují, Río Las Ahallas, 850 m, 4°30'N, 61°30'W, 1 Nov. 1985, *Liesner 19270* (MO, VEN). **Territorio Federal Amazonas:** Departamento Atures, along stream on plateau N of unnamed 1,760-m peak, 9 km NW of settlement of Yutajé, 4 km W of Río Corocoro, W of Serranía de Yutajé, forested area, 5°41'N, 66°10'W, 1,050–1,300 m, 7 Mar. 1987, *Liesner & Holst 21724* (AMES, MO, VEN); Departamento Río Negro, Cerro Tamacuari, Sierra Tapirapécó, 1°N, 65°W, 1,400 m, Feb. 1989, *Santana & Gutierrez 43* (VEN).

This small species is apparently restricted in Venezuela to relatively low elevations in the Guayana. It is known from three stations 500–700 km apart and probably occurs in intervening places. Among other *Brachionidium* species it can be recognized by the following character combination: plant small; rhizome short, erect; leaves elliptic; inflorescences much longer than the leaves; sepals and petals minutely ciliate, long-caudate, and labellum transversely rhombic with a triangular apiculum.

Lepanthes Sw.

This is a genus of perhaps 600 or more mainly Andean species (Luer, 1986). The Amazon Basin and the Guayana Highlands are surprisingly species-poor, with less than 20 known species. To date, we know of nine species of *Lepanthes* in all of the Venezuelan Guayana. Most of the species in this area are either endemic or show an interesting close relationship with the *Lepanthes* flora of the Southern Antilles. Two species of the Venezuelan Guayana have proved to be undescribed, and a third one has recently had its known range extended into Brazil.

Lepanthes marahuacensis Carnevali & I. Ramírez, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Departamento Atabapo, Cerro Marahuaca, summit on SE corner, open rocky plateau and ravines, 3°37'N, 65°21'W, 2,700 m, 13–14 Oct. 1988, “at base of bluff. Fruit greenish brown,” *Liesner 24798* (holotype, VEN; isotype, MO). Figure 8.

Lepanthes dussii Urban similis sed ramicaulibus proli-feris, scandentibus; rachidibus laxioribus; sepalis lateralibus in quintam partem basalem tantum connatis; columna valde elongata discrepat.

Plants small, epiphytic near ground on shrubs or subhumicolous, scandent or erect to prostrate. Roots relatively thick, 1–2 originating from bases or apices of ramicauls. Ramicauls 14–35 mm long, relatively stout, straight or arcuate, prolific, concealed in 4–7 close-fitting, imbricate, lepanthiform sheaths with scabrous to microscopically pilose costae and ostia.

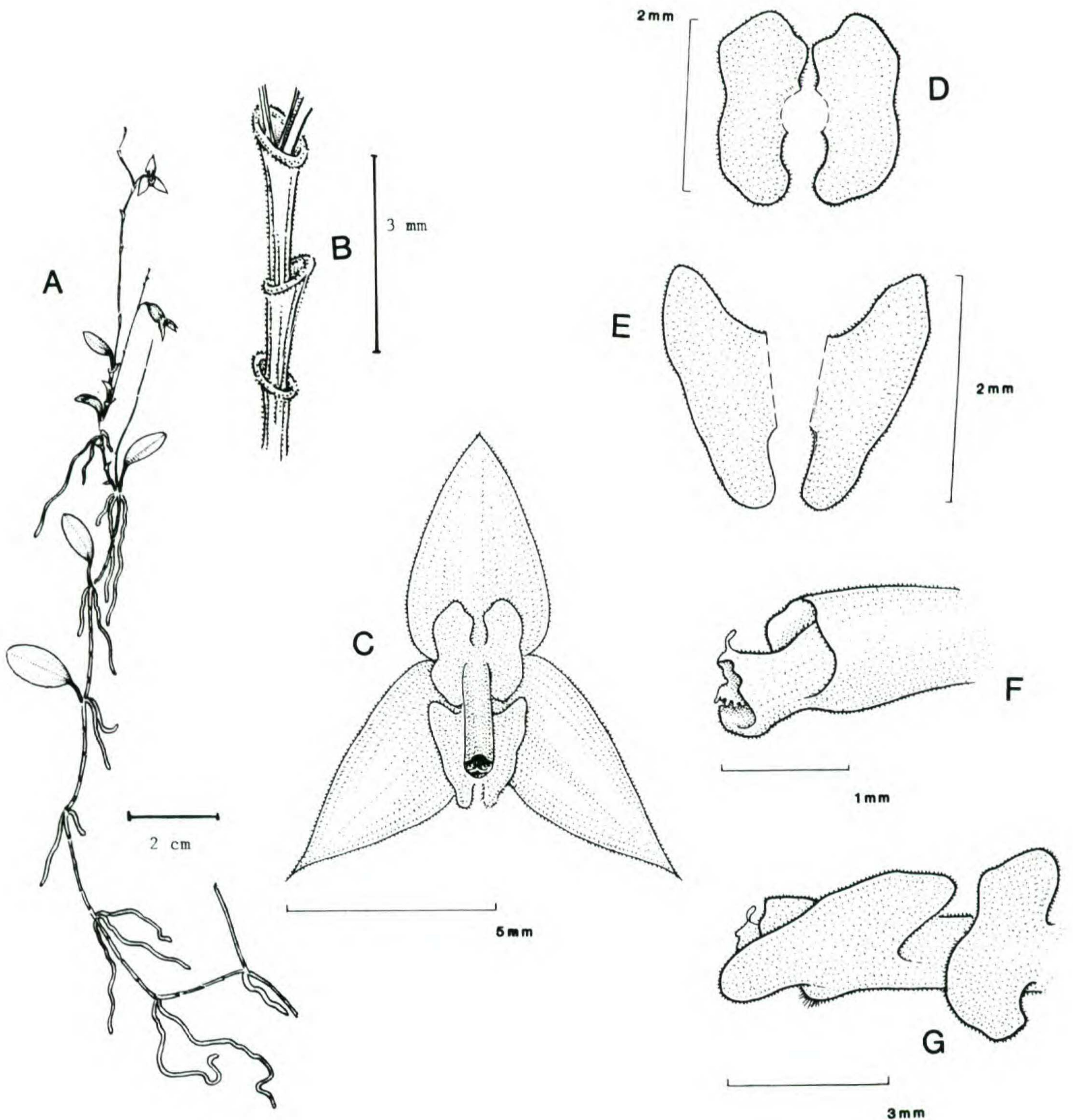


Figure 8. *Lepanthes marahuacensis*. —A. Flowering plant. —B. Detail of lepanthiform sheaths. —C. Flower, front view. —D. Petals. —E. Blades of labellum. —F. Column. —G. Lateral view of column, labellum, and petals (based on *Liesner 24798*; flowering plant by Bruno Manara, rest of the figure by Carlos Reynel).

Leaves 10–18 mm long, 5–8 mm wide, fleshy, perpendicular to ramicaul, 9-nerved, elliptic, obtuse to broadly obtuse at apex, subapically mucronulate, basally attenuate into a broadly channeled, 3-mm-long pseudopetiole. Inflorescences 2–4-flowered racemes, 30–60 mm long, 3–4 times as long as the subtending leaf, erect; peduncle 25–45 mm long, 4–8-articulate, terete, with bracts to 2.5 mm long, tubulose, much shorter than internodes, oblong-elliptic, abruptly acute, the margins scabrous; rachis to 20 mm long, lengthening with each successive

flower, fractiflex, terete, the internodes 5–8 mm long. Floral bracts 1–2 mm long, similar to peduncle bracts. Pedicel 1.5–2.5 mm long, terete. Ovary 1.5–2 mm long, conspicuously ridged. Flowers, apparently nodding, hyaline to brownish purple. Sepals dorsally carinate, especially toward base, microscopically ciliate within, glabrous without. Dorsal sepal 5 mm long, 3–3.5 mm wide, 3-nerved, ovate, acuminate; lateral sepals 5 mm long, 2.5–3 mm wide, 1-nerved, ovate-elliptic, acuminate, slightly oblique, connate in the basal fifth. Petals 0.6–0.8

mm long, ca. 2 mm wide, microscopically ciliolate on both sides, transversely elliptic-reniform; upper lobe 0.8–0.9 mm long, obtuse-rounded; lower lobe 1.1–1.2 mm long, obtuse. Labellum with the blades 2.2–2.5 mm long, ca. 1 mm wide toward the base, minutely pubescent, triangular-semilunate with obliquely acute upper end and acute-acuminate lower end; the blades overlapping at their lower ends when expanded; connectives and body dorsally pubescent, broadly cuneate, connate above basal third of the column; sinus acute; appendix very small, subtriangular, densely long pubescent. Column 2.5 mm long, elongate, cylindrical, minutely pubescent. Anther dorsal. Stigma apical.

Paratype. VENEZUELA. **Territorio Federal Amazonas:** Departamento Atabapo, Cerro Marahuaca, type locality, 15 Oct. 1988, *Liesner 24828* (MO, VEN).

This species is closely related to *Lepanthes dussii* Urban and *L. unitrinervis* Carnevali & I. Ramírez, both occurring in the highlands of the Venezuelan Guayana. *Lepanthes marahuacensis* is easy to distinguish from these two species by its proliferous ramicauls and a much more elongate column. *Lepanthes unitrinervis* is known only from Ilú-tepui and Cerro Roraima in Estado Bolívar, while *L. marahuacensis* is known from the summit of Cerro Marahuaca in Territorio Federal Amazonas; both species grow at elevations from 2,500 to 2,700 m. *Lepanthes dussii* was described from Guadeloupe in the Lesser Antilles; elsewhere it is known only from two very distant stations in the Venezuelan Guayana (Gran Sabana and Cerro Neblina) at 1,200–1,500 m. Several other species of *Lepanthes* show similar patterns of distribution. *Lepanthes cercion* Luer, *L. pariaensis* Foldats, and *L. pectinata* Luer occur only in the Peninsula de Paria, an area known to have a floristic relationship with the Antilles, and in the Guayana Highlands of Venezuela and Brazil. *Lepanthes duidensis* Ames & C. Schweinfurth is known to occur outside the Guayana area only in the Isla de Margarita, also known for its floristic relationship with the Antilles and located very close to Paria. *Brachionidium parvum* Cogniaux also shows the same basic distributional pattern.

Lepanthes pariaensis Foldats *Acta Bot. Venez.* 3: 339, fig. 11. 1968.

This species is common and widespread in the Venezuelan Guayana in cloud forests at elevations of 750–1,500 m. The populations from this area have more pubescent petals than those of the typical population. Recently, it was collected for the first time in Brazil.

Specimens examined. BRAZIL. **Amazonas:** plateau of N Massif of Serra Aracá, 0°51–57'N, 63°21–22'W, 1,400 m, cloud forest, 17 Feb. 1984, *Prance et al. 29125* (INPA, NY, VEN); same locality, 21 Feb. 1984, *Prance et al. 29201* (INPA, NY, VEN).

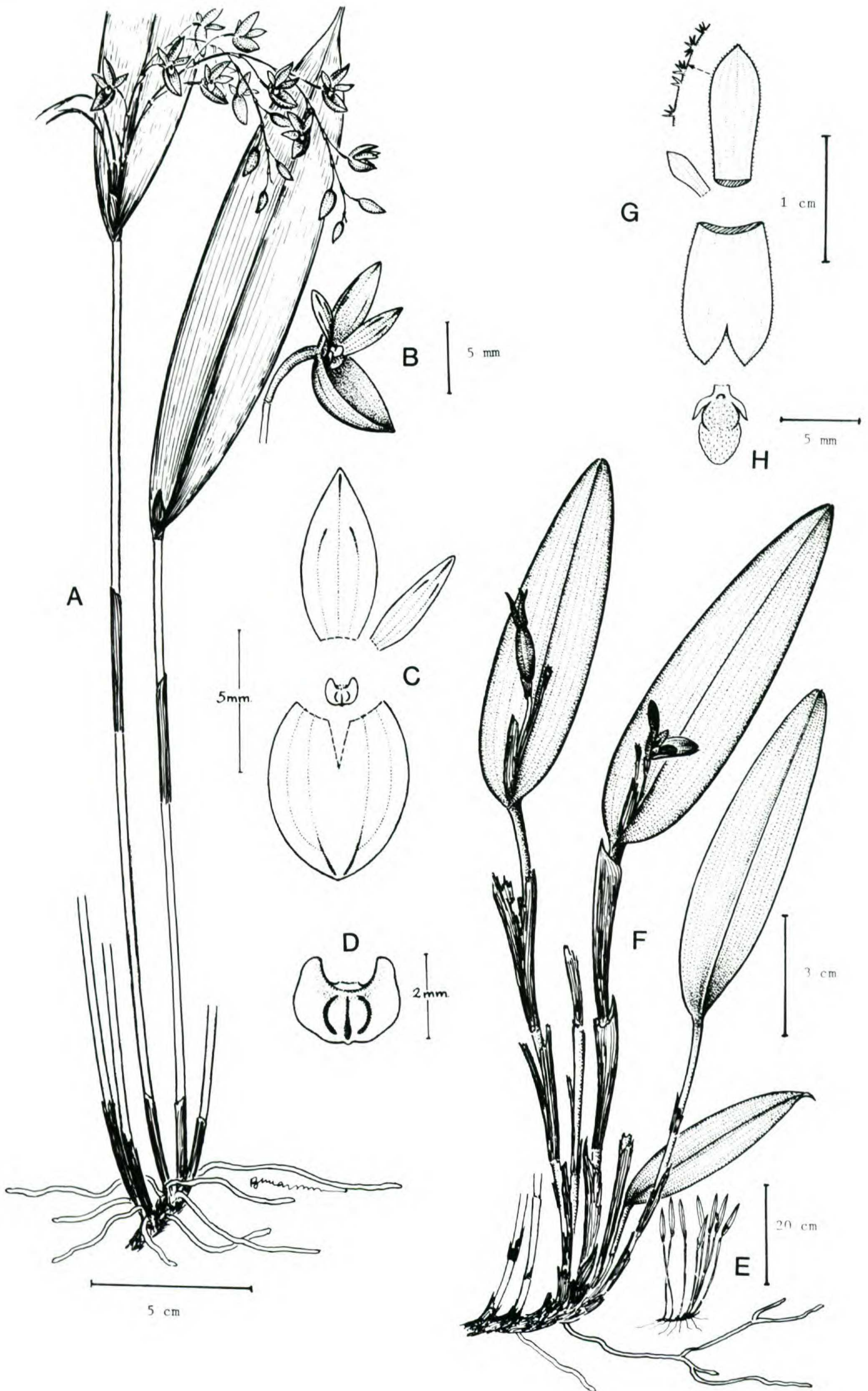
Lepanthes unitrinervis Carnevali & I. Ramírez, sp. nov. TYPE: Venezuela. Bolívar: Ilú-tepui, lower plateau with varied habitats, rocky, boggy, shrubby and short forest to 5 m tall, 5°25'36"N, 60°29'W, 2,500 m, 16 Apr. 1988, "in crack in rock. Flower buds reddish purple," *Liesner 23433* (holotype, VEN; isotype, MO). Figure 7D–H.

Species *Lepanthes dussii* Urban affinis sed ramicaulium vaginis scabrosis; rhachidis internodiis pedicellos 3–4-plo excedentibus; sepalis lateralibus in quartam partem basalem tantum connatis; petalorum lobis angustioribus, longioribusque; labello bilobato differt.

Epiphytic herbs, small to minute, erect, muscicolous, caespitose. Roots proportionately thick and long. Ramicauls 5–8 mm long, enveloped by 3 tightly fitting, minutely scabrous, lepanthiform sheaths. Leaves 9–10 mm long, 6–7 mm wide, fleshy, broadly elliptic, apically obtuse to subrotund, basally attenuated into a twisted, 2–2.5 mm long, broadly channeled pseudopetiole. Inflorescence 25–30 mm long, a long peduncled, laxly 1–3-flowered raceme. Peduncle 20 mm long, 3-bracted. Floral bracts 1.2 mm long. Pedicels 0.8 mm long, 3–4 times shorter than internodes of rachis. Flowers apparently nodding. Fruiting ovary 1.8 mm long. Dorsal sepal 4.2 mm long, 2.4 mm wide, 3-nerved, dorsally carinate, ovate-elliptic, acuminate. Lateral sepals 5 mm long, 2.3 mm wide, 1-nerved, connate in basal fourth, ovate elliptic, acuminate, carinate. Petals 2.2 mm long, 0.5 mm wide, transversely narrowly elliptic, inconspicuously bilobed with both lobes somewhat falcate, the upper obtuse, the lower truncate; margins ciliolate. Labellum bilaminiate, the blades 2 mm long, minutely pubescent, elliptic-lunate with obtuse upper end and acute lower end, overlapping when expanded; connectives and body broadly cuneate, connate to very base of column, dorsally pubescent; sinus elliptical with a very small, subtriangular appendix. Column 1.8 mm long, elongate-subterete, dorsally carinate, minutely pubescent. Anther dorsal. Stigma apical.

Paratype. VENEZUELA. **Bolívar:** Cerro Roraima, valley of Río Arabapo, 2,600 m, Sep. 1976, *Dunsterville 1356* (AMES).

This taxon is closely related to *Lepanthes marahuacensis*, from which it differs chiefly by its non-prolific ramicauls, the more obtuse basal lobes of its



labellum, and its shorter column. It is distinguished from *L. dussii* by its scabrous, nonpilose, cauline sheaths, clearly bipartite labellum, more transverse petals with narrower lobes, and a less crowded rachis. The name refers to the 1-nerved lateral sepals and the 3-nerved dorsal sepal.

Myoxanthus

Myoxanthus aspasicensis* subsp. *arenicola Carnevali & I. Ramírez, subsp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Departamento Atabapo, Cerro Huachamacari, E slope, rainforest, 03°49'N, 65°42'W, 600–700 m, 3 Nov. 1988, “terrestrial, flowers red-purple inside,” *Liesner 25776* (holotype, VEN; isotype, MO). Figure 9E–H.

Myoxanthus aspasicensis subsp. *aspasicensis* similis sed habitu arenicola, rhizomate valde elongato, foliis ramicaule brevioribus vel raro hunc subaequantibus, basi obtusa rotundatae vel raro subacuta (vs. cuneata vel acuta), 7.5–13 cm longis, 1.5–3.3 cm latis (vs. 16–25 × (3.5–)5–6.5 cm), sepalo postico 11–13 mm longo, 2.1–2.7 mm lato (vs. 17 × 6 mm), petalis 3–4 mm longis, 1–1.3 mm latis (vs. 6 × 2 mm), labello synsepalo 2-plo brevior (vs. 3-plo brevior).

Erect herbs, medium-sized, psammicolous to lithophytic on sandstone, very rarely epiphytic, growing in sun or shade. Rhizome horizontal to suberect, short to long, relatively thick, bearing ramicauls at intervals of 6–11 mm, entirely concealed by scarious, defibrating sheaths. Roots thick. Ramicauls 8–20 cm long, terete, apically unifoliate, 4-articulate; each articulation entirely clothed by a tubular sheath; sheaths papery, apiculate eventually defibrating and deciduous, brown-pustulose, especially the lower ones. Leaves 7.5–12.5 cm long, (1.5–)1.7–3.0(–3.3) cm wide, thickly coriaceous, perpendicular to ramicaul or nearly so, narrowly oblong-elliptic or elliptic to oblong-elliptic, apex obtuse or subacute to (rarely) almost rounded, base obtuse or rounded to (rarely) subacute. Inflorescences uniflorous, fasciculate, originating from a conspicuous spathe about 1–2 cm long. Peduncle 1.4–2.2 cm long, terete, hispid, basally clothed by 1–2 tubular, imbricate, hispid sheaths. Floral bract 3–4.5 mm long, tubular, hispid, apiculate, completely enclosing the pedicellate ovary. Pedicel 1.5–3 mm long, stout, terete, subglab-

rous. Ovary 3–3.5 mm long, obconic, stout, hispid. Flowers medium sized, 15–20 mm long, open, fleshy, resupinate. Sepals with pubescence in small mounds on the outer face and at margins. Dorsal sepal 11–13 mm long, 2.1–2.7 mm wide, 5-nerved, oblong-elliptic, obtuse or acute, somewhat concave. Lateral sepals 10–12 mm long, 3.5–4.5 mm wide, 3-nerved, coherent into an elliptic synsepal; synsepal 7–8 mm wide, rounded or broadly obtuse, concave, free in apical third. Petals 3–4 mm long, 1–1.3 mm wide, 3-nerved, narrowly elliptic to oblong, obtuse or subacute to somewhat subulate-attenuate. Labellum 4.5–5 mm long, 2–2.8 mm wide, fleshier than other perianth segments, articulate with column-foot, somewhat concave, elliptic in overall shape, apically rounded, the ventral face verruculose, with a pair of linear, uncinuate lobes 0.5–0.9 mm long in basal fourth, and a pair of suboblong low lateral calli at middle, the disk with an inverted U-shaped callus near base and extending forward between lateral lobes as a pair of verruculose keels. Column somewhat arcuate, winged in upper third, 3.8–4.2 mm long. Capsule 3–4 cm long, oblongoid, hairy.

Paratypes. BRAZIL. **Amazonas**: Plató da Serra Aracá, 1,150–1,250 m, 21 Feb. 1984, *Tavares et al. 112* (NY). GUYANA. **Cuyuni–Mazaruni Region**: Timehri rock paintings, 2 km SSW of Maipuri Falls, 700–850 m, 5°40'N, 60°17'W, 23 Dec. 1989, *Gillespie & Smart 2865* (MO, US). VENEZUELA. **Bolívar**: El Paují, 900 m, 4°30'N, 61°36'W, 8 Nov. 1985, *Liesner 10745* (MO, VEN); Cerro Jaua, 1,850–1,920 m, 4°48'50"N, 64°34'10"W, 28 Feb. 1974, *Steyermark et al. 109455* (VEN), *Steyermark et al. 109814* (VEN); La Escalera, 20 Aug. 1979, *Stergios & Rodriguez 6646* (PORT, VEN); Auyán-tepui, 1,200 m, 17 Sep. 1968, *Foldats 7174* (VEN); 201 km S of El Dorado, 1,200–1,400 m, 22 Feb. 1972, *Steyermark et al. 105498* (VEN); Río Paragua, Oct. 1974, *Steyermark s.n.* (VEN); medio Río Paragua, minas de Maraima, 300 m, 6°7'N, 63°45'W, 13 June 1987, *Stergios 10253* (PORT, VEN); Cerro Guaiquinima, 750 m, 5°44'4"N, 63°41'8"W, 24 Jan. 1977, *Steyermark & Dunsterville 113460* (VEN); Luepa, Gran Sabana, 1,250 m, 21 Oct. 1987, *Ramírez & Carnevali 147* (TFAV, VEN); Río Churún, *Dunsterville 296* (AMES, VEN). **Territorio Federal Amazonas**: Cerro Duida, 1,350 m, 3°10'N, 65°31'W, 11 Feb. 1975, *Tillett 752-161* (MYF, VEN); Cerro Duida, Sep. 1977, *Tillett et al. 752-299* (MYF, VEN); Cerro Neblina, 15 Apr. 1984, *Gentry & Stein 46661* (MO, VEN), 15–18 Mar. 1984, *Liesner 16690* (MO); Cerro Yapacana, 825–1,000 m, 3°45'N, 66°45'W, 7 May 1970, *Steyermark & Bunting 103147* (MY, VEN).

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Figure 9. A–D. *Pleurothallis elvirana*. —A. Flowering plant. —B. Flower. —C. Perianth segments, flattened. —D. Labellum (based on *Liesner & Stannard 16898*). E–H. *Myoxanthus aspasicensis* subsp. *arenicola*. —E. Old plant, showing creeping habit. —F. Flowering habit. —G. Perianth segments, showing detail of external pubescence. —H. Labellum, flattened (based on *Liesner 25776*).

This new subspecies is apparently restricted to the sandstone outcrops and sandy soils derived from the Roraima Formation in southern Venezuela, Guyana, and northern Brazil. *Myoxanthus aspasicensis* subsp. *arenicola* usually grows in open situations, in full sun or under light shrubs. It has been repeatedly cited in the literature of Venezuelan orchids as *Pleurothallis uncinata* Fawcett & Rendle [*B. uncinata* (Fawcett & Rendle) Luer] (Dunsterville & Garay, 1959; Foldats, 1970), a taxon occurring from Belize to Panama and in Jamaica. The closest relative of this new taxon is *M. aspasicensis* subsp. *aspasicensis* (Reichenbach f.) Luer, which it resembles in its creeping rhizome, the relatively broad leaves for the species complex, and the broad, verruculose, apical lobe of its labellum. *Myoxanthus aspasicensis* subsp. *arenicola* is easily distinguished from the typical subspecies by its smaller stature, sand-loving habit, more clearly creeping rhizome, smaller leaves that are almost always shorter than the ramicaul with a rounded or obtuse to very rarely subacute base, shorter spathe (1–2 cm long vs. 3–4 cm long), smaller flowers (dorsal sepal 11–13 mm long, 2.1–2.7 mm wide vs. 17 mm long, 6 mm wide), and labellum, which is about 2 times shorter than the synsepal (in the typical subspecies it is about 3 times shorter). The typical subspecies is mainly an Andean taxon known from Costa Rica, Colombia, Ecuador, and Bolivia. *Myoxanthus aspasicensis* subsp. *arenicola* was illustrated and described by Dunsterville & Garay (1959: 354–355) as *Pleurothallis uncinata* Fawcett & Rendle; the drawing is somewhat misleading because it does not show the verrucae on the ventral face of the labellum.

Octomeria R. Brown

Octomeria exigua C. Schweinfurth, Bot. Mus. Leaflet 3: 86. 1935. TYPE: Guyana. Arakaka: Hoodline, Feb. 1896, *Im Thurn 115b* (holotype, AMES; isotype, K).

Octomeria exigua var. *elata* C. Schweinfurth, Bull. Torrey Bot. Club 75: 216. 1948. TYPE: Guyana. Kaieteur Plateau, 5 May 1944, *Maguire & Fanshawe 23256* (holotype, AMES; isotype, NY).

Octomeria deltoglossa Garay, Bot. Mus. Leaflet 18: 201. 1958. TYPE: Venezuela. Bolívar: Río Carrao, July 1955, *Dunsterville 289* (AMES).

Octomeria kestrochila Garay & Dunsterville, Ven. Orch. Ill. 6: 288. 1976. TYPE: Venezuela. Territorio Federal Amazonas: Cerro Yapacana, 1,100 m, 5 May 1970, *Steyermark 103130* (holotype, AMES; isotype, VEN).

The study of numerous herbarium specimens, including the types and abundant living material has

shown that these four concepts belong to one variable species, widespread in the Guayana Highlands in Guyana and Venezuela, at elevations of 450–1,500 m. The labellum varies in shape from elliptic (as in *O. kestrochila*) to oblanceolate-obtrullate (as in the types of the other three taxa). The surface of the labellum varies from verrucose to almost smooth, with all intermediate stages, sometimes even in the same population. The plants are also rather variable in stature, ranging from 5 to 20 cm in height; the leaves can be shorter or longer than the ramicaul.

Selected specimens examined. GUYANA. **Arakaka:** Hoodline, Feb. 1896, *Im Thurn 115* (AMES, K); Kaieteur Plateau, 5 May 1944, *Maguire & Fanshawe 23256* (AMES, NY). VENEZUELA. **Bolívar:** 12 km N of Aparamán-tepui, 950 m, Sep. 1986, *A. Fernández 3526* (MYF, VEN), Chimantá tepui, Río Tirica, 1,000 m, May, *Steyermark 75571* (VEN); La Escalera, 500–1,200 m, Jan. 1962, *Foldats 2861, 2883* (both VEN); Amarway-tepui, 600–900 m, Dec. 1986, cultivated from material collected by R. Liesner & B. K. Holst, *Carnevali 2065* (VEN); Cerro Sarisariñama, 700–1,350 m, Feb. 1974, *Steyermark et al. 109260* (VEN), *109091* (VEN). **Territorio Federal Amazonas:** Cerro Sipapo, 1,400 m, *Maguire & Politi 27727* (NY, VEN); Cerro Yapacana, 1,000–1,200 m, 5 May 1970, *Steyermark & Bunting 103130* (AMES, VEN); Cerro Duida, 1,440 m, 1931, *Tate 554* (NY); Serranía de Yutajé, 5°41'N, 66°09'W, 1,000–1,050 m, 3 Mar. 1987, *Liesner & Holst 21563* (MO, VEN).

Octomeria gemmula Carnevali & I. Ramírez, *Ernstia* 39: 15. 1986.

We here report this species for the first time from Colombia.

Specimen examined. COLOMBIA. **Vaupés:** Río Piraparaná (tributary of Apaporis), between 0°15'S, 70°30'W and 0°25'N, 70°30'W, 18 Sep. 1952, *Schultes & Cabrera 17516* (AMES, MO).

Pleurothallis R. Brown

Pleurothallis elvirana Carnevali & I. Ramírez, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Departamento Río Negro, Cerro de La Neblina, Camp 5, valley N of base of Pico Cardona, 1,250 m, 0°49'N, 66°0'W, 21–24 Mar. 1984, *Liesner & Stannard 16898* (holotype, VEN; isotype, MO). Figure 9A–D.

Species haec in *Pleurothallis lindeniae* Lindley complexu his concurrentibus notis distinguitur: planta elongata (50 cm attinenti); foliis ellipticis; inflorescentiis pendulis 5–8 floris; floribus luteis parvis, haud estriatis; petalis ellipticis; labello 3-nervato, ecalloso vel subcalloso, apice truncato. (Subgenus *Pleurothallis*, sect. *Pleurothallis*, subsect. *Macrophyllae-Racemosae*.)

Epiphytic herbs, erect, densely caespitose, 30–50 cm high. Roots many, relatively thick. Ramicauls 20–35 cm long, terete, clothed by 2 tubulose, scarious sheaths, the lower 1.5–2 cm long, the upper 3.5–4 cm long. Leaves 14–17 cm long, 2.1–3.5 cm wide, erect, coriaceous, narrowly elliptic to narrowly obovate-elliptic, acute, the apex acuminate, tridenticulate, the base subcuneate. Inflorescences 5–8-flowered pendulous racemes to 9 cm long, 1–4 simultaneously from a fibrous sheath 4–5 mm long, ramicauls producing up to 8 racemes; peduncle subterete; rachis straight. Floral bracts 3.5–4.5 mm long, tubulose, basally appressed to rachis, apically expanded and cupuliform with attenuate apex. Pedicel and ovary subterete; pedicel 4–5 mm long; ovary 2.5 mm long. Flowers not resupinate; perianth segments expanded, subfleshy, yellow, glabrous. Dorsal sepal 6.5–7.5 mm long, 3.5–4 mm wide, 3-nerved with shorter lateral nerves extending only to apical third, elliptic, obtuse to subacute, abruptly pointed apically. Lateral sepals 6–6.5 mm long, 4.5–5.5 mm wide when expanded, 4-nerved, connate into a broadly elliptic, concave synsepal. Petals 5–5.5 mm long, 1.4–1.6 mm wide, 3-nerved, fleshier than sepals, apically thickened, narrowly ovate-elliptic, acute, slightly oblique. Labellum 1.8–2 mm long, 2.2–2.5 mm wide when expanded, fleshy, broadly ovate or transversely oblong, apically rounded or subtruncate, with a small, rounded mucro, with three prominently raised nerves in dry material, these inconspicuous when rehydrated; disk ecallose or with 2 inconspicuous pulvinate calli 0.1 mm high. Column 1.5–1.7 mm long, subconic or cylindrical, footless; anther apical; stigmatic surfaces 2, apical.

This new species belongs to the *Pleurothallis lindenbergii* complex, a group composed of many interrelated species that differ only in subtle ways. Many of these species are only known from one mountain or mountain range. *Pleurothallis elvirana* is the first species in this complex to be collected in the Guayana area; all the other species are from the Andean Range or the Coastal Cordillera of Venezuela. *Pleurothallis elvirana* can be distinguished from most of its relatives by its 3-nerved labellum, which is ecallose or with two inconspicuous, pulvinate calli, and has a truncate apex provided with a small, rounded, apical mucro. There are two other species in this complex with ecallose labella: *P. aporosis* Luer and *P. decora* Luer, from Ecuador and Colombia respectively, but in these two species the labellum is longer than wide, while it is wider than long in the new species. The species is named after Elvira Cotton, from Venezuela, who distributed the material collected during the Neblina Project.

Pleurothallis morilloi Carnevali & I. Ramírez, sp. nov. TYPE: Venezuela. Táchira: on Río San Buena, 10 km E of La Fundación, primary areas around Represa Dorada, forest evergreen, soils tending to be sandy, derived from metamorphic rock (schist or gneiss), 700–1,000 m, 7°47–48'N, 71°46–47'W, 13–14 Mar. 1980, Liesner, Gonzalez & Smith 9535 (holotype, VEN; isotype, MO). Figure 10.

Pleurothallis chamensi Lindley affinis, statura vegetativa manifeste minore differt; rhizoma elongata prostrate; foliis basaliter cuneatis, quam caulibus secundariis longioribus vel subaequalibus; inflorescentiis tantum 1–3-floris; floribus minoribus; sepalo dorsali extus carinato trianguliter oblongo; petalis vix inconspicue serrulatis; labelo leviter carnosus. (Subgenus *Acianthera* sect. *Sicariae* subsect. *Sicariae*.) Figure 6.

Epiphytic herbs, shortly creeping, shade-loving, 4–5.5 cm high. Roots filiform. Rhizome 4–8 cm long, terete, with 2–4 articulations between ramicauls. Ramicauls 1.1–2.2 cm long, 0.4–1.5 cm wide, erect to horizontal or subpendulous, basally ancipital, apically triquetrous. Leaves 2.3–3.2 cm long, 1–1.7 cm wide, erect to horizontal, fleshy-coriaceous, elliptic to ovate, obtuse to acute, apically minutely bidenticulate, basally cuneate or rounded to (rarely) subcordate, the midrib abaxially prominent. Inflorescences in fascicles of 1–3 but only 1 fertile at any given time, 1–3-flowered, with 1–2 flowers in simultaneous anthesis; peduncle 0.2–0.4 cm long. Pedicellate ovary ca. 2.3 mm long, 6-ribbed, two-winged, hence triquetrous, 5 mm long after pollination. Floral bracts 0.5 mm long, green, broadly triangular, obtuse to acute. Flowers erect to suberect, not opening completely, sometimes cleistogamous; perianth segments rigid, subfleshy, greenish yellow; labellum greenish white. Sepals 3-nerved, concave, dorsally carinate, the carinae continuous over ovary. Dorsal sepal 4 mm long, 0.9–1.1 mm wide, 3-nerved, oblong to oblong-elliptic, acute. Lateral sepals 3.5 mm long, 1.3 mm wide, 3-nerved, triangular-ovate, acute, connate in basal $\frac{1}{4}$ to $\frac{2}{3}$ into an oblong-elliptic synsepal. Petals 2.3 mm long, 0.4 mm wide, hyaline, 1-nerved, linear oblong, obtuse to acute, the apical margins finely and irregularly serrulate. Labellum 2.5 mm long, 1.3–1.5 mm wide, membranous, 3-nerved, ovate-elliptic, the apex rounded to broadly obtuse, minutely erose, simple, concave, ecallose, the basal margins erect. Column 2 mm long, slightly recurved, with two small apical wings. Anther apple-green or yellow, papillose. Pollinia 2.

Paratype. VENEZUELA. **Bolívar**: Río Aonda (Auyántepeui), ca. 600 m, Mar. 1969, *Dunsterville 1108* (AMES, line drawing AMES).

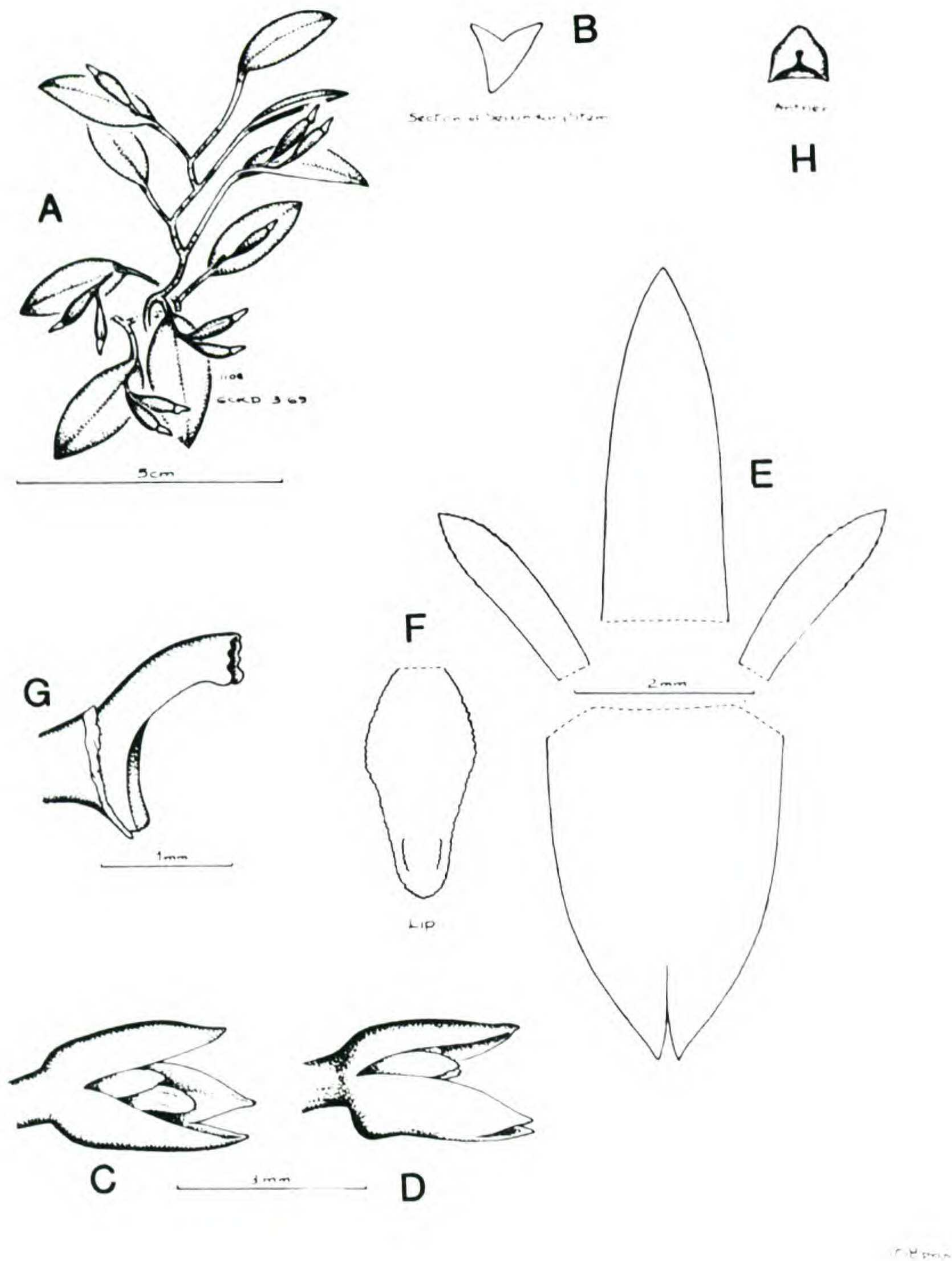


Figure 10. *Pleurothallis morilloi*. —A. Fruiting habit. —B. Cross section of ramicaul. —C, D. Two lateral views of flower at anthesis. —E. Sepals and petals, flattened. —F. Labellum, flattened. —G. Column. —H. Anther (based on *Dunsterville 1108*; illustration by G. C. K. *Dunsterville*, courtesy of AMES).

This small creeping species, named after Gilberto Morillo, former curator at VEN, is closely related to *P. chamensis* Lindley. *Pleurothallis morilloi* differs from Lindley's species by its smaller vegetative and floral dimensions, its long creeping rhizome, its cuneate leaves subequal to the length of the ramicaul, its 1–3-flowered inflorescence, and its dorsal sepal which is dorsally carinate and triangular-oblong (linear-oblong to linear spathulate in *P. chamensis*); furthermore, the petals are only minutely

serrulate and the labellum is thinly membranous in *P. morilloi*. *Pleurothallis chamensis* is a species of medium to high elevations, while *P. morilloi* is found at lower elevations (to 1,000 m). Living material of this species was collected by the first author close to the town of Wonkén, Akaruai River, Estado Bolívar in 1984, but no voucher of it was made. *Pleurothallis chamensis*, widely distributed and very common in the Venezuelan Coastal Range and in the Andes, is absent from the Guayana.

Pleurothallis tepuiensis Carnevali & I. Ramírez, sp. nov. TYPE: Venezuela. Bolívar: Auyán-tepui, región del Oso, 2,200 m, 10 sep. 1958, *Pannier & Schwabe 1819* (VEN). Figure 11A–C.

(Species) *P. batillaceae* Luer affinis sed statura minore, foliis multo angustioribus (6–10-plo longioribus quam latioribus vs. 2–3-plo longioribus quam latioribus), inflorescentiis solitariis succesivis, synsepalo sepalum dorsale subaequante (vs. angustiore) differt. (Subgenus *Crocodeilanthe*.)

Epiphytic herbs, caespitose to shortly creeping, to 30 cm high. Rhizome short-creeping to ascending, clothed by scarious sheaths. Ramicauls 9–17 cm long, terete, basally enclosed in a series of large scarious sheaths, the lowermost enclosing 1–3 ramicauls, the ramicauls with a tubular median sheath. Leaves 6–12(–14) cm long, 1.4–1.8(–2.5) cm wide, coriaceous, linear-elliptic to narrowly oblong-elliptic, apically obtuse, minutely tridenticulate, basally attenuate into a pseudopetiole 1.5–2 cm long. Inflorescences 4–12 cm long, solitary in anthesis but produced in succession, racemose, laxly to subdensely 10–25-flowered, bearing flowers from very base, subtended by a conduplicate spathe 1.3–2 cm long. Floral bracts 1.5–2.3 mm long, cupuliform. Pedicel ca. 2 mm long; ovary 1–2 mm long, ridged, arcuate. Flowers campanulate, hyaline with purplish nerves, nodding, glabrous. Sepals subfleshy, dorsally carinate, concave; dorsal sepal 3.5–4 mm long, 2.5–3 cm wide, 3-nerved, elliptic, broadly acute; lateral sepals connate about half their length into a synsepal 3.5–4.5 mm long, 2–3 mm wide, the free portions 2-nerved, triangular-elliptic, acute. Petals 2.7–3.2 mm long, 0.8–0.9 mm wide, 1- to obscurely 3-nerved, narrowly oblong to narrowly oblong-oblan-ceolate, apically rounded to subtruncate. Labellum 1.8–2.2 mm long, 1.7–1.9 mm wide, articulate to column-foot, fleshier than other perianth segments, 3-nerved, concave in natural position, broadly ob-ovate in outline when expanded, basally attenuate into an elliptic to oblong, concave claw, this separate from blade by a transverse bar; blade 3-lobed in the apical third, the lateral lobes 1 mm long, 0.4–0.5 mm wide, callose-thickened, triangular-semilunate, rounded, the central lobe 0.5–0.6 mm long, 0.8 mm wide, very broadly ovate, rounded to subtruncate, thickened, the ventral surface rough. Column 1.2–1.3 mm long; column-foot 0.4 mm long, finely papillose.

Paratypes. VENEZUELA. **Bolívar**: Meseta del Jaua, Cerro Jaua, cumbre, 4°48'50"N, 64°34'10"W, al 0 del tributario del Río Marajano, 1,800 m, 24 feb. 1974, *Steyermark et al. 109446* (VEN); Cerro Sarisariñama, cumbre, porción NO, 4°41'40"N, 64°13'20"W, 700 m,

12–15 feb. 1974, *Steyermark et al. 109105* (AMES, VEN).

This species belongs to the *Pleurothallis galeata* Lindley complex, composed of many very closely related species. *Pleurothallis tepuiensis* is similar to the Andean *P. batillacea* Luer, from which it differs by its much narrower leaves, its smaller size, by producing successive, solitary inflorescences, and by its synsepal as broad as the dorsal sepal, not narrower as in Luer's taxon. The flowers of both species are very similar, but the vegetative characters and minor floral features make them clearly distinct. *Pleurothallis tepuiensis* is restricted to dwarf forests on tepui summits at elevations of 700–2,200 m.

Stelis Swartz

Stelis gemma Garay, *Orquideología* 4: 77, fig. 1969.

This unique species, easy to recognize by its short, congested inflorescences, relatively large, white flowers, 7-nerved sepals, and wide leaves, had been collected in Peru in 1959, but the material remained unidentified until now. It was previously known from Ecuador and Colombia.

Specimen examined. PERU. **Huánuco**: Muña, 7 Mar. 1959, *Woytkowski 5241* (MO).

Stelis umbelliformis Hespenheide & Dressler subsp. **brevipedunculata** Carnevali & I. Ramírez, subsp. nov. TYPE: Colombia. Nariño: Municipio de Tumaco, km 63 carretera Tumaco–Pasto, Vereda El Carmen, 240 m, 19 feb. 1984, *Benavides 4284* (holotype, PSO; isotype, MO).

A subsp. *umbelliformi* inflorescentia quam folia 2-plo breviora (vs. quam folia longiora), sepalis petalisque atropurpureis, petalis latioribus, margine acutis discrepat.

Although the floral differences between the subspecies are not particularly remarkable, the much shorter inflorescences make subspecies *brevipedunculata* distinctive. The typical subspecies is from the Province of Colón, Panama, and has inflorescences ranging from a little longer than the subtending leaf to about two times as long, petals with rounded to truncate upper and lower margins, and flowers described as “verdes con baño morado.” In the new subspecies the inflorescences are half the length of the subtending leaf or shorter, the petals have acute to acuminate upper and lower margins, and the flowers are described as “color pardo oscuro.” The two known populations of this species are separated by a distance of about 900 km.



Figure 11. A-C. *Pleurothallis tepuiensis*. —A. Flowering habit. —B. Lateral view of the flower. —C. Perianth segments flattened with two views of the labellum (based on Steyermark *et al.* 109446). D-F. *Eltroplectris calcarata*. —D. Flowering habit. —E. Flower. —F. Perianth segments, flattened (based on Fernández 778).

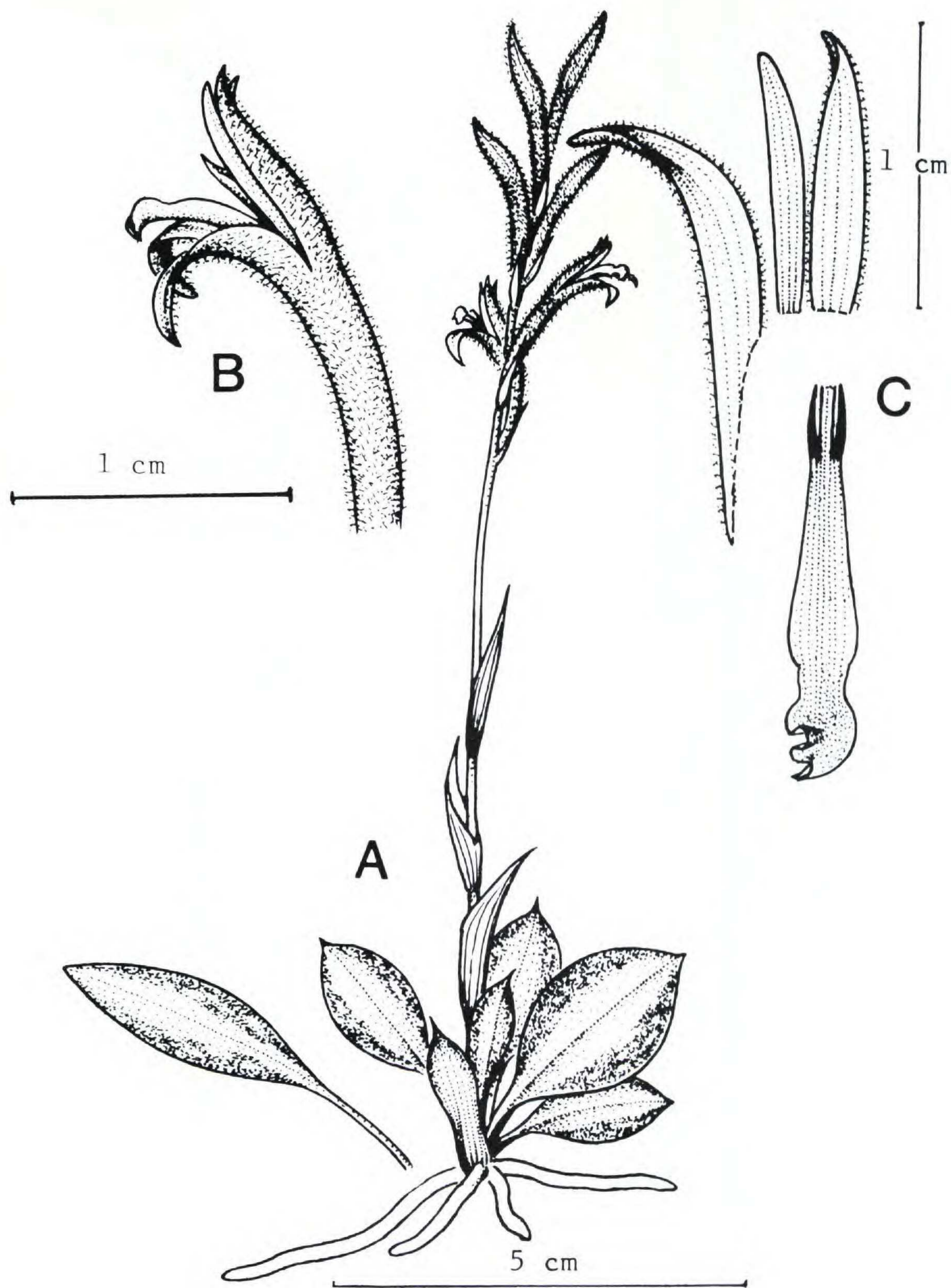


Figure 12. *Sarcoglottis stergiosii*. —A. Flowering habit. —B. Lateral view of the flower. —C. Perianth segments, flattened (based on *Stergios & Aymard 4400*).

SUBFAMILY ORCHIDOIDEAE

SUBTRIBE HABENARIINAE

Habenaria pygmaea C. Schweinfurth & R. Schultes, *Amer. Orchid Soc. Bull.* 23: 822, fig., 1954. TYPE: Colombia. Comisaría del Amazonas-Vaupés: Río Apaporis, Cachivera de Jirijirimo y alrededores, 250 m, 13 June 1951, *Schultes & Cabrera* (AMES).

Habenaria guanchezii Carnevali & I. Ramírez, *Ernstia* 33: 15. 1986, syn. nov. TYPE: Venezuela. Territorio Federal Amazonas: Departamento Atures, Río Guayapo, Raudal Moriche, 100–120 m, 20 Apr. 1984, *F. Guánchez 3085* (holotype, VEN: isotypes, MY, TFAV).

When we described *H. guanchezii*, we overlooked Schweinfurth's species. The Venezuelan material is almost identical to the type collection and

grows in the same kind of specialized psammicolous association. It is now known from Venezuela, Colombia, and Ecuador.

SUBFAMILY SPIRANTHOIDEAE

SUBTRIBE SPIRANTHINAE

Eltroplectris Rafinesque

Eltroplectris calcarata (Swartz) Garay & Sweet, J. Arnold Arbor. 53: 390, fig. 71. 1972. Figure 11D–F.

This showy species is scattered along its distributional range and may prove to be more common than the present collecting record indicates. Recently, it was collected twice in Venezuela; besides the specimen cited below we have seen living material from the Sierra de San Luis, in northwestern Venezuela. The Venezuelan material is intermediate between the “calcarata” form and the “setacea” form, confirming Garay & Sweet’s (1972) opinion that they were just extreme forms of a variable complex. It is now known to occur in Florida, the West Indies, Colombia, Ecuador, Venezuela, and Brazil.

Specimen examined. VENEZUELA. **Bolívar:** Cerro Arimagua, close to Cerro Bolívar, 480 m, light semideciduous forest, Jan. 1985, *Fernández 778* (PORT, VEN).

Sarcoglottis C. Presl

Sarcoglottis stergiosii Carnevali & I. Ramírez, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Departamento Río Negro, selva pluvial, alrededores de San Carlos de Río Negro y camino que conduce a Solano, 100–120 m, 23–29 July 1982, *Stergios & Aymard 4400* (holotype, VEN; isotypes, PORT, TFAV). Figure 12.

Plantae 10–16 cm alta. Folia 3–5, pseudopetiolata; lamina usque ad 6 cm longa, 1.8 cm longa, elliptica vel late elliptica. Bractae anguste ovato-ellipticae, usque ad 13 mm longae; floribus albescentibus, parvulis, extus pilosis; sepalis 3-nervatis, 9.5–10 mm longis, 1.5–2 mm latis, anguste ellipticis; petalis 3-nervatis, 7.5 mm longis, 1 mm latis, lineari-ellipticis; labello 7-nervato, 13 mm longo, 2.5 mm lato, ambitu lineari-obovato, lobo apicali ovato-subrhombico, undulato, 2.7 mm longo, 2.5 mm lato, disco in triente superiore pubescente; columna usque ad 15 mm longa.

Terrestrial herbs, 10–16 cm high. Roots few, short, fleshy, lanuginose. Leaves 3–5, 2–6 cm long, 1–1.8 cm wide, present at anthesis, rosulate, somewhat oblique, elliptic to broadly elliptic, acute to rarely obtuse, basally cuneate and attenuate into a 1–1.5-cm-long channeled pseudopetiole, adaxially

solid purple-brown or blotched or marbled with olive-green, abaxially deep green or solid purple. Scape 9–15 cm high, erect, laxly pubescent, terete, clothed by 4–6 sheaths 1.3–2.7 cm long, 4–4.5 mm wide, narrowly elliptic, acuminate, glabrous to glabrescent, longer than the internodes. Inflorescence densely 3–7-flowered, the rachis 2.1–3 cm long, subterete, laxly long pubescent. Flowers small for the genus, totally white. Ovary 12–15 mm long, slightly arcuate, subdensely long-pubescent. Floral bracts 9.5–13 mm long, 2.1–2.8 mm wide, narrowly ovate-elliptic, acuminate. Sepals externally subdensely pubescent; dorsal sepal 8–10 mm long, about 1.5 mm wide, narrowly elliptic, acute to obtuse, 3-nerved, concave; lateral sepals subparallel to column, with spreading apices, basally long-decurrent on ovarian wall, the free portions 8.5–9.5 mm long, ca. 2 mm wide, narrowly oblong-elliptic, obtuse, falcate. Petals 6.5–7.5 mm long, ca. 1 mm wide, 3-nerved, connate with dorsal sepal for $\frac{1}{5}$ of their length, the apices somewhat divergent, narrowly elliptic, falcate, acute to subobtuse, glandular and with ciliate margins. Labellum 12–13 mm long, 2.5 mm wide, long-unguiculate, 7-nerved, linear-obovate, basally long-sagittate; basal lobes linear, 2.6–2.8 mm long; blade glabrescent, gradually widened toward apex from a narrowly oblong basal zone, slightly contracted in apical $\frac{1}{4}$ and then broadened into a deflexed apical lobe; apical lobe 2.5–2.7 mm long, ca. 2.5 mm wide, broadly ovate-subrhombic, obtuse, finely and densely short-pubescent, coarsely undulate. Column 5.6 mm long, narrow, ventrally pubescent; rostellum 1.2 mm long, laminar, soft, truncate-emarginate apically; stigmata confluent; anther narrowly ovate.

Paratype. VENEZUELA. **Territorio Federal Amazonas:** IVIC Study Area, 4 km E of San Carlos de Río Negro, 120 m, 01°56′N, 67°04′W, 21 Nov. 1977, *Liesner 3728* (VEN).

This new species can be distinguished from other species of *Sarcoglottis* by the following combination of features: small size (to 16 cm high); leaves solid purple-brown, blotched or marbled with olive-green, present at anthesis; inflorescences 3–7-flowered; flowers small, totally white; and broadly ovate-subrhombic, coarsely undulate apical lobe of the labellum. *Sarcoglottis stergiosii* is known only from the drainage of the Casiquiare and Negro rivers, where it is quite rare and forms small colonies in rather open, wet forests.

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